STRATEGICECONOMICS

HONOLULU TOD DEMAND ANALYSIS AND MARKET PROJECTIONS

Prepared for:

City and County of Honolulu

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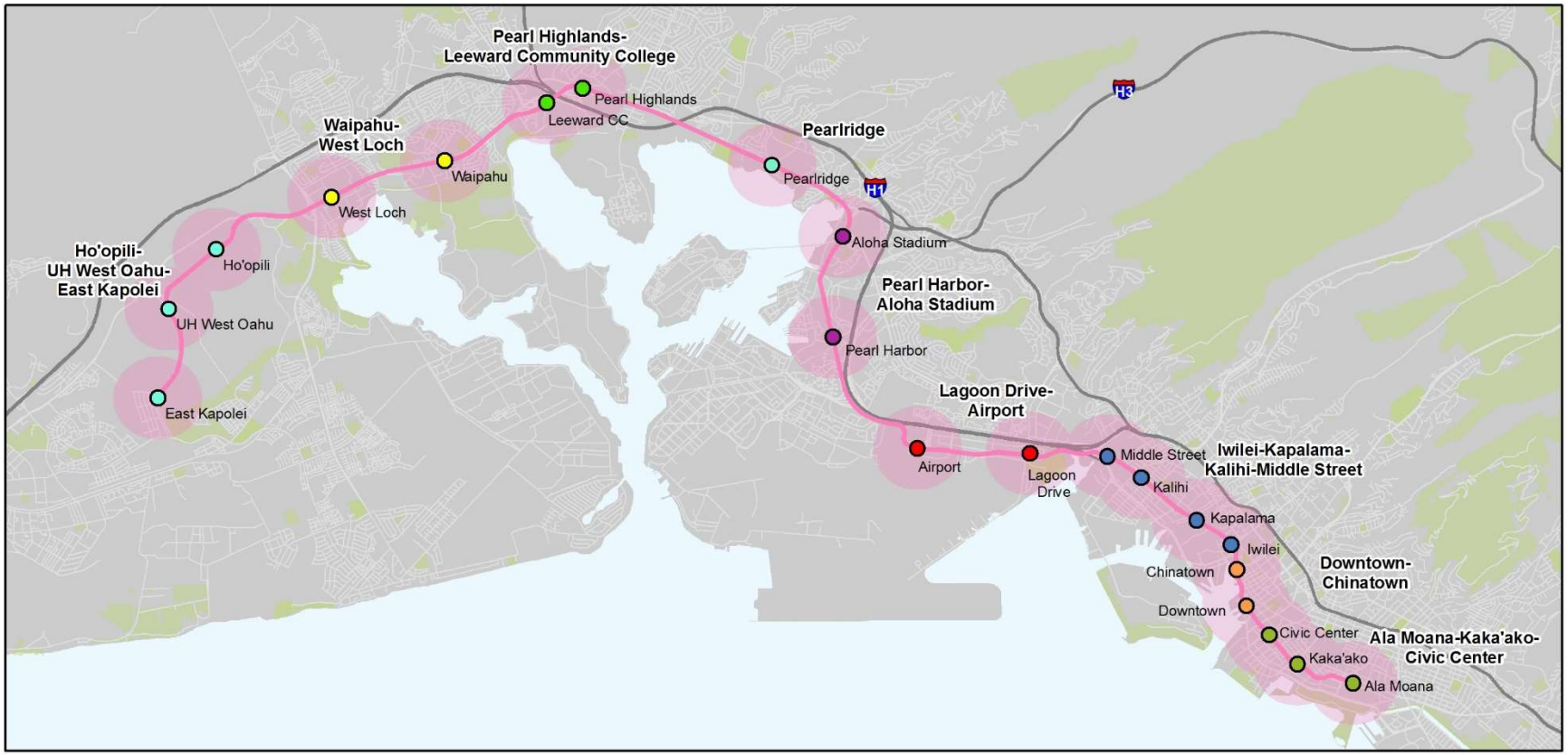
I. INTRODUCTION

The City and County of Honolulu (the City) retained Strategic Economics to evaluate the potential for new housing, office, industrial, retail, and hotel development at the station areas along the future rail transit corridor. The 20-mile Honolulu Rail Transit Project will connect 21 stations including East Kapolei, Daniel K. Inouye International Airport, Chinatown, Downtown and Ala Moana Center. The City is planning for transit-oriented development (TOD) around the future rail transit stations, including neighborhood TOD plans that encompass all of the future stations, with the goal of enhancing the neighborhoods around the stations and focusing future growth in a sustainable way. The City is also actively working to focus infrastructure investments that will help to facilitate future growth.

The City requested development projections for the TOD planning areas in order to better understand how development activity and growth are likely to occur over time along the corridor and within the individual station areas. While market analyses were previously completed for groupings of station areas to inform development of the TOD plans, the previous studies did not examine the corridor's likely capture of development activity as a whole or reconcile expected future development across the individual neighborhood TOD plans.

This report describes existing conditions, development trends, and future market demand in order to then inform an estimate of the likely timing and locations of future housing, office, industrial, retail, and hotel development along the rail corridor. The development projections are described in two phases: growth by 2030, and from 2030 to 2040. These projections apply to the approximately half-mile areas around the stations, with the results expressed for the groups of station areas shown in Figure 1. Groupings were determined based on the stations' proximity to each other and similarities in market conditions and built environment; therefore, the groupings do not necessarily coincide with those of the TOD neighborhood plans. The projections also account for planned infrastructure investments to serve priority development areas, especially at State owned lands. However, actual development densities, locations, and timing may vary depending on the phasing of those infrastructure investments.

FIGURE 1: STATION AREA GROUPINGS DESCRIBED IN DEVELOPMENT PROJECTIONS



Sources: City of Honolulu DPP, 2018; Strategic Economics, 2018.

Report Organization

The remainder of this report includes the following chapters:

- **II. Executive Summary of Findings:** Describes key findings and summarizes the development projections for all analyzed land uses.

- **III. Expected Impact of Transit on Development Potential in Honolulu:** Describes factors that generally influence transit's impact on development potential, based on existing research literature. Examines Honolulu's policy context, known development plans on public lands, and infrastructure issues along the rail corridor to identify shared issues impacting the phasing and locations of future development.

- **IV. Housing Demand and Development Projections:** Describes relevant existing housing conditions and development trends; provides housing development projections.

- **V. Office Space Demand and Development Projections:** Describes relevant existing office conditions and development trends; provides office development projections.

- **VI. Industrial Space Demand and Development Projections:** Describes relevant existing industrial conditions and development trends; provides industrial space development projections.

- **VII. Retail Space Demand and Development Projections:** Describes relevant existing retail conditions and development trends; provides retail development projections.

- **VIII. Hotel Demand and Development Projections:** Describes relevant existing hotel conditions and development trends; provides hotel development projections.

II. EXECUTIVE SUMMARY OF FINDINGS

This section briefly summarizes this report's major conclusions and describes the housing, office, industrial, retail, and hotel growth projections by station area group. The development projections for each land use are expressed as a range, including a "low" and "high" scenario.

Expected Impact of Transit on Development Potential in Honolulu

A large body of literature has found that certain types of employers and households prefer TOD locations, resulting in enhanced property values and beneficial impacts on development activity—especially for office and multifamily projects--in areas located within approximately a half mile of major transit stations. Based on known factors that positively influence the potential to attract investment in TOD areas, the station areas along the Honolulu rail corridor are well-positioned to attract a high proportion of future development and growth on Oahu. These factors include:

- The rail corridor will connect a high proportion of Honolulu's jobs and a number of key destinations.
- Housing development activity along the corridor reflects demand for transit-supportive multifamily product types.
- The station areas have significant capacity to accommodate growth.
- The City has undertaken TOD planning and zoning updates, and is focusing infrastructure investment in the corridor.
- Public agencies own significant land near the corridor and are planning to pursue major development projects.
- The improved transit options can improve development feasibility by reducing parking demand and enabling higher-density development.

Housing Demand and Development Projection Summary

TOD HOUSING OPPORTUNITIES

- Development trends are shifting to favor locations along the rail corridor; sixty percent of residential units currently planned for development on Oahu between 2018 and 2030 will be located in the TOD station areas.
- Major property owners, including the State and Kamehameha Schools, are planning significant redevelopment projects in the future station areas, especially in the Iwilei/Kapalama area.
- The TOD areas are expected to grow their appeal as locations for residential development over time. In the short term, residential development may be concentrated only in Ala Moana, Kakaako, and Hoopili. In the longer term, once transit service begins and TOD policies and projects are implemented, other TOD areas are expected to become increasingly attractive as residential locations.
- The rail project, combined with local infrastructure investments to promote connectivity within neighborhoods, can help to improve the financial feasibility of housing development projects in neighborhoods that have not seen recent investment. Feasibility will be improved by reduced parking needs and increases to attainable sales prices and rents.

TOD HOUSING CONSTRAINTS

- High development costs are a major challenge for housing development. The high cost of new construction in Honolulu pushes developers to build to the top of the residential market in order to achieve revenues high enough to offset high costs. The cost structure of development also favors residential projects that are either very high density or low density.
- In many locations, especially existing neighborhoods, significant investments in infrastructure capacity are required in order to enable development.
- Affordable housing developers face additional challenges, including a lack of funding sources for pre-development “soft” costs, difficulty in competing with market rate developers for site acquisition, and challenges associated with competing for and assembling financing for affordable projects.

HOUSING PROJECTIONS FOR THE TOD CORRIDOR BY STATION AREA GROUP

The corridor demand was allocated to station area groups using capture rates that reflect the location of planned development and expected timing of infrastructure projects that will help to enable development, and assuming a growing preference for development to locate in the station areas over time. Through 2030, development is expected to continue to be concentrated in the Ala Moana, Kakaako and Hoopilii areas, with some development also occurring in the Iwilei to Middle Street and Pearl Harbor/Aloha Stadium station area groups. In the longer term, development is projected to shift toward the Iwilei to Middle Street station area group, Pearl Harbor/Aloha Stadium, and the Pearlridge station area. Based on these assumptions, Figure 2 shows projected residential development by station area group. Total demand for housing units in the corridor is projected to be between 34,465 and 37,245 between 2018 and 2040.

FIGURE 2: PROJECTED RESIDENTIAL DEMAND ON OAHU, AND DEVELOPMENT PROJECTIONS FOR THE TOD CORRIDOR AND STATION AREA GROUPS, 2018 TO 2040

	Capture Rate		*Projected Growth (Housing Units)*		
	2018-2030	2030-2040	2018-2030	2031-2040	Total
Low Scenario					
Islandwide Housing Demand Growth			33,500	22,100	55,600
TOD Corridor Demand Capture*	60%	65%	20,100	14,365	34,465
By Station Area Group					
Ala Moana, Kakaako, Civic Center	28%	5%	5,584	718	6,302
Downtown, Chinatown	1%	1%	195	144	338
Iwilei, Kapalama, Kalihi, Middle Street	20%	37%	4,026	5,315	9,341
Lagoon Drive, Airport	0%	0%	0	0	0
Pearl Harbor, Aloha Stadium	7%	7%	1,399	1,006	2,404
Pearlridge	1%	18%	196	2,586	2,782
Pearl Highlands, Leeward CC	3%	2%	628	287	915
Waipahu, West Loch	5%	2%	967	287	1,255
Ho'opili, UH West Oahu, East Kapolei	35%	28%	7,105	4,022	11,127
Total	**100%**	**100%**	**20,100**	**14,365**	**34,465**
High Scenario					
Total Housing Demand Growth			33,500	22,100	55,600
TOD Corridor Demand Capture*	65%	70%	21,775	15,470	37,245
By Station Area Group					
Ala Moana, Kakaako, Civic Center	28%	5%	6,050	774	6,823
Downtown, Chinatown	1%	1%	211	155	366
Iwilei, Kapalama, Kalihi, Middle Street	20%	37%	4,361	5,724	10,085
Lagoon Drive, Airport	0%	0%	0	0	0
Pearl Harbor, Aloha Stadium	7%	7%	1,515	1,083	2,598
Pearlridge	1%	18%	212	2,785	2,997
Pearl Highlands, Leeward CC	3%	2%	680	309	989
Waipahu, West Loch	5%	2%	1,048	309	1,357
Ho'opili, UH West Oahu, East Kapolei	35%	28%	7,697	4,332	12,029
Total	**100%**	**100%**	**21,775**	**15,470**	**37,245**

*TOD demand capture rates were based partly on analysis by Strategic Economics of planned development provided by the Honolulu Department of Planning and Permitting, including the "Annual Report on the Status of Land Use on Oahu: Fiscal Year 2017," and updated development data provided directly by DPP.
Note: Numbers may not sum due to rounding.
Source: Honolulu DPP, 2018; Strategic Economics, 2019.

Office Demand and Development Projection Summary

TOD OFFICE OPPORTUNITIES

- New office development is likely to cluster in existing major office districts, such as Downtown and Ala Moana, since rail will enhance these locations' regional access and support higher employment densities within the existing office districts.
- The TOD neighborhood plans provide an opportunity to protect and expand office and research and development space to support the growth of innovative and creative industries, particularly in locations near the planned transit stations. In an effort to attract new investment and businesses that can create more skilled and high-quality jobs, the State has taken an active role in promoting the development of high-tech, knowledge-based and other emerging industries, such as clean energy, biotechnology/health sciences, marine- and energy-related research and development, communications, media, and technology.

TOD OFFICE CONSTRAINTS

- Honolulu has experienced very limited office development in recent years, and has struggled with low absorption, high vacancy rates, and minimal growth in new inventory and office demand.
- Companies are utilizing less office space per employee as the rise of modular offices and open layouts, teleworking, and operational cost savings drive companies to lease less office space.
- While rail transit is likely to support growth near future station areas and shift office location preferences, suburban locations with abundant parking remain popular due to convenient parking and less traffic congestion. As a result, some office tenants remain drawn to relatively suburban locations away from the urban core of Honolulu.

OFFICE PROJECTIONS BY STATION AREA GROUP

In the short term (2018-2030), office growth was assumed to continue in existing concentrations of office space, such as Downtown and Ala Moana, and secondary office locations in the Airport, Pearlridge, and Waipahu areas. In the short term, new transit adds the most value to locations where the additional accessibility of transit enhances the underlying value of an already desirable location.

In the longer term (2030-2040), office growth was expected to be more distributed along the entire corridor after the transit system has matured, major infrastructure projects are fully completed, and new dining and amenities are added in TOD station areas. A well designed and convenient transit system can shift the location decisions of businesses seeking space in more transit-accessible locations by attracting and retaining workers who prefer multiple options for commuting to work and access to dining, services, and entertainment options.

Based on these considerations, the office development projections were allocated by station area growth in the short term (2018-2030) and longer term (2030-2040) as shown in Figure 3. Projected office development is expected to total between 1.28 million square feet to 1.45 million square feet of office space by 2040.

FIGURE 3: PROJECTED OFFICE DEMAND IN THE TOD CORRIDOR AND DEVELOPMENT PROJECTIONS FOR THE STATION AREA GROUPS, 2018 TO 2040

	Capture Rate		*Projected Growth (Square Feet)*		
	2018-2030	2030-2040	2018-2030	2031-2040	Total
Low Scenario					
Islandwide Office Demand Growth*			479,658	1,181,053	1,660,710
TOD Corridor Demand Capture	70%	80%	335,800	944,800	1,280,600
By Station Area Group					
Ala Moana, Kakaako, Civic Center	30%	20%	100,700	189,000	289,700
Downtown, Chinatown	50%	50%	167,900	472,400	640,300
Iwilei, Kapalama, Kalihi, Middle Street	5%	45%	16,800	47,200	64,000
Lagoon Drive, Airport	5%	7%	16,800	66,100	82,900
Pearl Harbor, Aloha Stadium	2%	5%	6,700	47,200	53,900
Pearlridge	1%	1%	3,400	9,400	12,800
Pearl Highlands, Leeward CC	1%	1%	3,400	9,400	12,800
Waipahu, West Loch	1%	1%	3,400	9,400	12,800
Hoopili, UH West Oahu, East Kapolei	5%	10%	16,800	94,500	111,300
Total	**100%**	**100%**	**335,800**	**944,800**	**1,280,600**
High Scenario					
Islandwide Office Demand Growth*			479,658	1,181,053	1,660,710
TOD Corridor Demand Capture	80%	90%	383,700	1,062,900	1,446,700
By Station Area Group					
Ala Moana, Kakaako, Civic Center	30%	20%	115,100	212,600	327,700
Downtown, Chinatown	50%	50%	191,900	531,500	723,400
Iwilei, Kapalama, Kalihi, Middle Street	5%	5%	19,200	53,100	72,300
Lagoon Drive, Airport	5%	7%	19,200	74,400	93,600
Pearl Harbor, Aloha Stadium	2%	5%	7,700	53,100	60,800
Pearlridge	1%	1%	3,800	10,600	14,400
Pearl Highlands, Leeward CC	1%	1%	3,800	10,600	14,400
Waipahu, West Loch	1%	1%	3,800	10,600	14,400
Hoopili, UH West Oahu, East Kapolei	5%	10%	19,200	106,300	125,500
Total	**100%**	**100%**	**383,700**	**1,062,900**	**1,446,700**

*The office demand growth nets out a portion of existing vacancy and office space currently under construction.
Note: Numbers may not sum due to rounding.
Source: Strategic Economics, 2019.

Industrial Demand and Development Projection Summary

INDUSTRIAL OUTLOOK IN TOD AREAS

- Industrial properties are undergoing or are likely to undergo redevelopment in several TOD areas, especially as ground leases expire and redevelopment occurs at properties that cannot accommodate modern tenant needs. Industrial users generally cannot compete with the higher attainable values for high-intensity residential and retail uses. This is especially true within TOD areas that allow conversion to residential uses generally or higher intensity uses that will concentrate activity near stations and support transit ridership. The redevelopment process has begun in Kakaako, and pressure for conversion is likely to occur in locations near other future rail stations, including Kalihi/Kapalama and the Airport/Mapunapuna area.
- Demand for industrial space is likely to continue growing in the future, but most new industrial space is likely to be developed in the Kapolei area and outside of TOD areas. DBEDT projections anticipate ongoing growth of employment in industry sectors requiring industrial land, including construction, wholesale trade, and transportation. While some intensification and reinvestment may occur in the centrally located industrial districts (e.g., Mapunapuna, Kakaako, Kalihi), much of the market-driven development activity is likely to occur outside of TOD areas.
- The State of Hawaii has acknowledged that the preservation of affordable industrial space in Honolulu's urban core is critical for supporting job growth and meeting space demands of current and future industrial users. As discussed in the State's TOD Strategic Plan (2017), there are visions for multi-level industrial structures to support continued industrial uses on land owned by the Department of Hawaiian Home Lands (DHHL). DHHL has conceptual plans to redevelop approximately 14 acres in the Shafter Flats area (referred to as "Moanalua Kai") near the Middle Street station into multi-level industrial space, although concerns about sea level rise may require changes to these plans. DHHL would like to be able to take advantage of TOD opportunities and address the significant need to retain industrial users in the area.

INDUSTRIAL PROJECTIONS BY STATION AREA GROUP

Industrial space development projections by station area group were developed for the short term (2018-2030) based on existing industrial concentrations, locations in which smaller-scale industrial development is most likely to occur, the potential completion of DHHL's Shafter Flats project, and potential development of industrial space under the Hoopili Master Plan.

In the longer term (2030-2040), both the low and high scenarios assume modest net growth of industrial space within the TOD areas. Once transit service has been running for a few years and major infrastructure projects are completed (i.e., additional sewer pump stations, drainage, new roads, etc.), properties within the TOD corridor are assumed to primarily undergo conversion into higher-intensity land uses, such as housing, hotel, and offices. Developers may still construct a minimal amount of warehouse, distribution, and manufacturing space in the TOD station areas, potentially in new higher-intensity formats such as multi-story buildings.

Figure 4 shows the industrial development projections for the station area groups.

FIGURE 4: PROJECTED INDUSTRIAL SPACE DEMAND IN THE TOD CORRIDOR AND DEVELOPMENT PROJECTIONS FOR THE STATION AREA GROUPS, 2018 TO 2040

	Capture Rate		*Projected Growth (Square Feet)*		
	2018-2030	2030-2040	2018-2030	2031-2040	Total
Low Scenario					
Islandwide Industrial Demand Growth			2,968,100	1,378,600	4,346,700
TOD Corridor Demand Capture	6%	3%	178,100	41,400	219,400
By Station Area Group					
Ala Moana, Kakaako, Civic Center	0%	0%	0	0	0
Downtown, Chinatown	0%	0%	0	0	0
Iwilei, Kapalama, Kalihi, Middle Street	15%	15%	26,700	6,200	32,900
Lagoon Drive, Airport	22%	22%	39,200	9,100	48,300
Pearl Harbor, Aloha Stadium	5%	5%	8,900	2,100	11,000
Pearlridge	1%	1%	1,800	400	2,200
Pearl Highlands, Leeward CC	2%	2%	3,600	800	4,400
Waipahu, West Loch	5%	5%	8,900	2,100	11,000
Ho'opili, UH West Oahu, East Kapolei	50%	50%	89,000	20,700	109,700
Total	**100%**	**100%**	**178,100**	**41,400**	**219,400**
High Scenario					
Islandwide Industrial Demand Growth			2,968,100	1,378,600	4,346,700
TOD Corridor Demand Capture	8%	5%	237,400	68,900	306,400
By Station Area Group					
Ala Moana, Kakaako, Civic Center	0%	0%	0	0	0
Downtown, Chinatown	0%	0%	0	0	0
Iwilei, Kapalama, Kalihi, Middle Street	15%	15%	35,600	10,300	45,900
Lagoon Drive, Airport	22%	22%	52,200	15,200	67,400
Pearl Harbor, Aloha Stadium	5%	5%	11,900	3,400	15,300
Pearlridge	1%	1%	2,400	700	3,100
Pearl Highlands, Leeward CC	2%	2%	4,700	1,400	6,100
Waipahu, West Loch	5%	5%	11,900	3,400	15,300
Ho'opili, UH West Oahu, East Kapolei	50%	50%	118,700	34,500	153,200
Total	**100%**	**100%**	**237,400**	**68,900**	**306,400**

Note: Numbers may not sum due to rounding.
Source: Strategic Economics, 2019.

Retail Demand and Development Projection Summary

RETAIL OUTLOOK IN TOD AREAS

- Future residential development in the TOD station areas will generate additional local demand for neighborhood-serving retail. As described earlier, the TOD station areas around future rail stations could capture growth of over 34,000 additional housing units by 2040. The buildout of these units over time will create demand for local neighborhood-serving retail in these areas.
- Retail in station areas located near major tourism destinations will also benefit from growth in visitor spending. Although the rail corridor does not reach Waikiki, the Ala Moana, Kakaako, and Civic Center stations already benefit from visitor spending due to the presence of Hawaii's largest shopping mall at Ala Moana, and these stations' general proximity to Waikiki and other visitor destinations. Any future retail development at the Aloha Stadium property could also potentially benefit from proximity to Pearl Harbor Historic Sites.
- Since most of the TOD areas are already served by existing retail centers, development will likely be limited to reinvestment and redevelopment activity, with total inventory rising incrementally in response to growth in households and tourism. The retail mix is likely to continue its reorientation toward food, dining, drinking, local goods, and entertainment uses as traditional retail sales move online.

RETAIL PROJECTIONS BY STATION AREA GROUP

Household-driven retail demand and development projections were allocated to station groups based primarily on projected residential development, with adjustments for known major projects. Retail growth allocated to the station groups was similar to the projected growth of housing units by station group. The allocations incorporated additional adjustments for current development of shopping centers at the Hoopili, UH West Oahu, East Kapolei station group. The allocation also incorporated long term development of 200,000 square feet of retail space included in the "Live Work Play Aiea" redevelopment of the Kamehameha Drive In Theater site near the Pearlridge station.

Visitor-driven retail demand and development projections were allocated to station groups based primarily on the current locations of visitor spending. Visitor spending was assumed to focus in the Ala Moana-Kakaako-Civic Center station group since this area includes Ala Moana Center, other shopping options, and is located adjacent to Waikiki. Over time, however, the allocations assume greater diversity of the locations in which visitors spend as other retail clusters emerge and use of the rail system becomes more common. The allocations also incorporate planned redevelopment of the Aloha Stadium site.

Figure 5 shows the combined household-driven and visitor-driven growth in retail space by station area group.

FIGURE 5: TOTAL PROJECTED RETAIL DEMAND IN THE TOD CORRIDOR AND DEVELOPMENT PROJECTIONS FOR THE STATION AREA GROUPS, 2018 TO 2040*

	Projected Growth (Square Feet)		
	2018-2030	2031-2040	Total
Low Scenario			
Islandwide Retail Demand Growth (Square Feet)	2,104,200	1,246,500	3,350,700
TOD Corridor Demand Capture (Square Feet)	969,700	680,800	1,650,500
By Station Area Group			
Ala Moana, Kakaako, Civic Center	192,300	67,300	259,600
Downtown, Chinatown	15,600	18,200	33,800
Iwilei, Kapalama, Kalihi, Middle Street	69,800	249,300	319,100
Lagoon Drive, Airport	2,000	2,900	4,800
Pearl Harbor, Aloha Stadium	82,500	107,900	190,400
Pearlridge	9,700	145,100	154,800
Pearl Highlands, Leeward CC	17,400	12,500	29,900
Waipahu, West Loch	17,400	12,500	29,900
Ho'opili, UH West Oahu, East Kapolei**	12,400	65,200	77,600
Total	**419,100**	**680,800**	**1,099,900**
High Scenario			
Islandwide Retail Demand Growth (Square Feet)	2,104,200	1,246,500	3,350,700
TOD Corridor Demand Capture (Square Feet)	1,074,900	743,100	1,818,000
By Station Area Group			
Ala Moana, Kakaako, Civic Center	242,600	77,700	320,300
Downtown, Chinatown	18,600	20,600	39,200
Iwilei, Kapalama, Kalihi, Middle Street	94,500	268,500	363,000
Lagoon Drive, Airport	2,600	3,600	6,200
Pearl Harbor, Aloha Stadium	94,800	118,700	213,400
Pearlridge	10,700	156,500	167,300
Pearl Highlands, Leeward CC	18,900	13,400	32,300
Waipahu, West Loch	28,300	13,400	41,800
Ho'opili, UH West Oahu, East Kapolei**	13,300	70,700	84,000
Total	**524,300**	**743,100**	**1,267,500**

*The displayed demand and development projections sum growth in demand generated by both visitors and households. The retail demand estimates, corridor capture rate assumptions, and station area group allocation assumptions were calculated or applied separately for visitor-generated and household-generated demand. These assumptions are therefore not shown in this combined table, but are shown in Chapter VII of this report.
**The projections net out 550,593 square feet of space currently under construction in this station area group.
Note: Numbers may not sum due to rounding.
Source: Strategic Economics, 2019.

Hotel Demand and Development Projection Summary

HOTEL OUTLOOK IN TOD AREAS

- The current extent of the rail project will not reach Honolulu's greatest existing concentrations of hotels and resorts, given that it will stop short of Waikiki (with 85 percent of Honolulu's inventory) and does not reach waterfront resort areas such as Ko Olina or Hoakalei in the Ewa Beach area. It is expected that a substantial share of future development activity is likely to occur near existing clusters of hotels. Notably, the locations of future hotel development depend in part on where zoning and land use policy allow hotels to locate. Current policy encourages concentration of full-service hotels in locations such as Waikiki and resort areas such as Ko Olina and Hoakalei.
- Hotel location decisions are overwhelmingly influenced by the ability to attract tourists. As a result, it is unlikely that a hotel will be located somewhere exclusively on the basis of serving, for example, business travelers.
- Ala Moana is well-positioned to continue attracting future hotel development, unless changes in land use policy curtail these opportunities. Ala Moana is the beneficiary of a location immediately adjacent to Waikiki, relatively generous allowable heights and densities compared to Waikiki, existing shopping and park amenities that are appealing to visitors, and the existence of development opportunity sites. The addition of rail access – which will be lacking in Waikiki – is likely to create even more desirability for tourists to choose a hotel in Ala Moana.
- Hotel development in station areas outside the Ala Moana area is likely to be limited and more difficult to predict, although the Chinatown, Airport/Aiea, and Kapolei areas are likely to attract some hotel development. Kapolei has successfully attracted recent and proposed hotel development on the basis of serving visitors to the University of Hawaii – West Oahu campus, business travelers, and value-seeking tourists visiting family and nearby waterfront resorts. The Airport area and Aiea could potentially attract a hotel based on airport proximity and convenience for accessing military facilities. Chinatown has recently begun to attract development interest for smaller boutique hotels.

HOTEL PROJECTIONS BY STATION AREA SEGMENTS

Based on the findings above and recent trends in growth of Honolulu's hotel inventory (including both traditional hotel rooms and condo-hotel units that function under a major hotel brand), future demand was allocated as shown in Figure 6. Unlike the other development projections, the hotel projection scenarios incorporated differing assumptions regarding future islandwide growth in hotel inventory, and the projections allocated growth to customized corridor segments that better reflect hospitality market areas. The allocation assumed that the rail corridor captures 35 percent of future hotel demand, which is an increase over its 22 percent capture rate of recent and proposed development.

FIGURE 6: TOTAL PROJECTED HOTEL DEMAND IN THE TOD CORRIDOR AND DEVELOPMENT PROJECTIONS FOR STATION AREA SEGMENTS, 2018 TO 2040

	Capture Rate		*Projected Growth (Hotel Rooms)*		
	2018-2030	2030-2040	2018-2030	2031-2040	Total
Low Scenario					
Islandwide Hotel Demand Growth (Rooms)			2,600	2,100	4,700
TOD Corridor Demand Capture	35%	35%	910	735	1,645
By Station Segment*					
Segment: Ala Moana to Chinatown	63%	63%	572	462	1,034
Segment: Lagoon Drive to Pearlridge	16%	16%	143	116	259
Segment: UH West Oahu and East Kapolei	16%	16%	143	116	259
Other Corridor Areas	6%	6%	52	42	94
Total	**100%**	**100%**	**910**	**735**	**1,645**
High Scenario					
Islandwide Hotel Demand Growth (Rooms)			6,100	2,200	8,300
TOD Corridor Demand Capture	35%	35%	2,135	770	2,905
By Station Segment*					
Segment: Ala Moana to Chinatown	63%	63%	1,342	484	1,826
Segment: Lagoon Drive to Pearlridge	16%	16%	336	121	457
Segment: UH West Oahu and East Kapolei	16%	16%	336	121	457
Other Corridor Areas	6%	6%	122	44	166
Total	**100%**	**100%**	**2,135**	**770**	**2,905**

*Note that the hotel demand results are expressed in station area corridor segments that differ from the other demand projections.
Note: Numbers may not sum due to rounding.
Source: Strategic Economics, 2019.

III. EXPECTED IMPACT OF TRANSIT ON DEVELOPMENT POTENTIAL IN HONOLULU

This section discusses the potential impact of the new rail transit and TOD planning and investment efforts on development potential in Honolulu, including:

- A summary of research on employer and household preferences for transit-oriented locations and the property value and development impacts of new transit.
- A discussion of local factors that influence the development projections for all land uses, including TOD planning efforts, plans for publicly owned lands, and infrastructure needs and plans.
- Conclusions about the expected impact of the rail project on development in Honolulu.

Overview of Research about Transit's Impact on Development Potential

A wide body of research suggests that a major transit investment such as the Honolulu Rail Transit Project can help to attract development to station areas, especially when new transit is accompanied by favorable market conditions, supportive land use policies and local infrastructure improvements. Key findings from the literature are summarized below.

HOUSEHOLD AND FIRM LOCATION PREFERENCES

Surveys have found that many households prefer walkable, transit-oriented neighborhoods. For example, a recent National Association of Realtors survey on household and transportation preferences found access to public transit is very or somewhat important in deciding where to live for 62 percent of respondents. Nearly 70 percent report that sidewalks, places to walk and a short commute are very or somewhat important in deciding where to live. While most groups still prioritize easy access to the highway over access to public transit, Millennials (the generation born in the 1980s and 1990s) prioritize proximity to public transit as highly as they do proximity to the highway. Access to public transportation is much more important to those earning under $50,000 (41 percent answered "very important") compared to those earning more than $50,000 (28 percent). Walkability is also more important to those with lower incomes.[1]

Many employers see proximity to transit and other amenities as critical factors for recruiting and retaining talent. Over 60 percent of firms surveyed in CBRE's 2017 *Americas Occupier Survey* cited quality of local infrastructure and amenities as driving corporate building selection, and 40 percent stated that access to public transportation was the most important factor to their labor force.[2] Firms in knowledge-based industries (e.g., professional, scientific, information, and financial services) are

[1] National Association of Realtors, National Community and Transportation Preferences Survey, September 2017, https://www.nar.realtor/infographics/infographic-2017-community-transportation-preference-survey.

[2] CBRE, *Americas Occupier Survey, 2017*. http://www.us.jll.com/united-states/en-us/Research/US-Tech-Office-Trends-Fall-2017-JLL.PDF

(footnote continued)

particularly likely to choose locations that are seen as improving quality of life for workers, such as access to transit and amenities.[3] Reflecting the value that these types of employers place on proximity to transit, employment near transit stations tends to be more concentrated in knowledge-based industries.[4]

PROPERTY VALUE AND DEVELOPMENT IMPACTS OF TRANSIT

Many studies have found that increased demand by households and firms for transit-served locations can lead to higher property values and more focused development patterns near transit stations. A recent meta-study (a summary of other studies) found that while the property value premiums are generally positive, they also very significantly depending on the nature of the transit service, type of property and neighborhood context.[5]

Transit systems that provide frequent, reliable, fast, and regional service generate higher property value premiums and attract more new development, compared to systems that provide more limited service and serve a smaller market area. Several studies have found that heavy rail and commuter rail have a greater impact on property values compared to light rail, likely due to the greater frequency, speed of service, and geographic coverage that heavy rail and commuter rail systems provide.[6] Transit systems that provide frequent, convenient access to a high number of jobs and/or multiple employment centers or other important destinations are also likely to attract more new development.[7]

Office and multifamily residential development generally experience greater benefits from proximity to transit compared to single-family homes. Studies that have directly compared the effects for different property types have generally found that commercial office and multi-family properties experience higher premiums than single-family homes.[8] These findings are consistent with research on transit ridership and household and firm location patterns. Renters tend to take transit more often, own fewer cars, and are more likely to live within a half mile of a transit station than homeowners.[9] And, compared to workers employed in other types of jobs, office-based workers are more likely to commute via transit.[10] Moreover as discussed above, firms in office-based industries (e.g., professional services) are particularly likely to locate near transit stations.[11]

The benefits of transit for office development are concentrated within a short distance of the transit station. For office development, the premiums associated with proximity to transit are highest within a quarter mile of the station and decrease sharply by a half to one mile from the station. In contrast,

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[3] Salvesen and Renski, "The Importance of Quality of Life in the Location Decisions of New Economy Firms"; Chapple and Makarewicz, "Restricting New Infrastructure."

[4] Center for Transit-Oriented Development, "Trends in Transit-Oriented Development, 2000-2010."

[5] Mohammad et al., "A Meta-Analysis of the Impact of Rail Projects on Land and Property Values."

[6] Debrezion, Pels, and Rietveld, "The Impact of Railway Stations on Residential and Commercial Property Value: A Meta-Analysis"; Wardrip, "Public Transit's Impact on Housing Costs: A Review of the Literature"; Mohammad et al., "A Meta-Analysis of the Impact of Rail Projects on Land and Property Values."

[7] Fogarty and Austin, "Rails to Real Estate: Development Patterns along Three New Transit Lines"; Fogarty et al., "Downtowns, Greenfields, and Places in Between: Promoting Development Near Transit."

[8] Debrezion, Pels, and Rietveld, "The Impact of Railway Stations on Residential and Commercial Property Value: A Meta-Analysis"; Mohammad et al., "A Meta-Analysis of the Impact of Rail Projects on Land and Property Values"; Kittrell, Hamidi, and Ewing, "Transit's Value as Reflected in U.S. Single Family Home Premiums: A Meta-Study Summarizing 40 Years of Research."

[9] Pollack, Bluestone, and Billingham, Maintaining Diversity in America's Transit-Rich Neighborhoods: Tools for Equitable Neighborhood Change.

[10] Greenberg and Belzer, TOD 202: Transit & Employment.

[11] Center for Transit-Oriented Development, Trends in Transit-Oriented Development, 2000-2010.

(footnote continued)

residential properties continue to experience a transit premium even at further distances from the station.[12] The value of transit access may extend over shorter distances for commercial properties because riders are generally willing to travel further distances to access transit from home, than to travel from the transit station to work at the destination end of their trip.[13]

Supportive land use policy helps unlock the value of transit-served locations for new, higher-intensity development. Supportive public policy can help reinforce the value of transit-served locations for new, higher-intensity development by allowing higher densities (resulting in increased potential development revenues) and reduced parking requirements (resulting in decreased construction costs).[14]

Neighborhood connectivity also helps support higher property values and new development. Neighborhood land use context and connectivity to transit stations also plays an important role in driving property value effects. For example, a study of the Hiawatha Line in Minneapolis[15] found that while properties on the west side of the alignment benefited from an accessibility premium, properties on the east side – which are separated from the line by a four-lane road and an industrial area – did not.

Existing TOD Plans and Their Relationship to the Development Projections

The Honolulu Department of Planning and Permitting (DPP), in conjunction with local communities, has been preparing and adopting "Neighborhood TOD Plans" for areas surrounding the 19 stations under DPP's jurisdiction; the station locations are shown in Figure 1 on page 7. The areas covered by the TOD plans vary in size, but approximately match the half-mile radius areas described in this report's development projections.

The TOD plans provide a long term vision for the station areas. The plans also recommend local infrastructure and transportation connectivity improvements required to support envisioned growth and change, and implementation steps such as major public investments and changes to land use policy. While the character, intensity, and mix of uses varies, each plan generally supports the creation of a mixed-use district with excellent connectivity for pedestrians and cyclists and a variety of public and private amenities to serve the needs of residents and workers.

Based on the Neighborhood TOD Plans, DPP developed a preliminary estimate of total development capacity for different station area groupings, as shown in Figure 7. This estimate of development capacity essentially reflects a maximum potential buildout implied by the TOD plans, with some adjustments for local market conditions and known master planned projects in the various station areas.

In contrast to the estimate of total development capacity generated by DPP, the development projections described in this report take into account market demand limitations across TOD

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[12] Debrezion, Pels, and Rietveld, "The Impact of Railway Stations on Residential and Commercial Property Value: A Meta-Analysis"; Ko and Cao, "Impacts of the Hiawatha Light Rail Line on Commercial and Industrial Property Values in Minneapolis"; Nelson et al., "Office Rent Premiums with Respect to Light Rail Transit Stations in Dallas and Denver."

[13] Kolko, "Making the Most of Transit: Density, Employment Growth, and Ridership around New Stations."

[14] Nadine Fogarty et al., "Capturing the Value of Transit" (Center for Transit Oriented Development, 2008).

[15] Goetz et al., "The Hiawatha Line: Impacts on Land Use and Residential Housing Value."

neighborhoods. For each land use, future growth in demand was first estimated for Honolulu as a whole. These demand estimates were generated through analysis of employment and housing growth projections published by the State of Hawaii's Department of Business, Economic Development, and Tourism (DBEDT). Strategic Economics then calculated the rail corridor's likely total capture of demand at the station areas based on an understanding of market, demographic, and employment trends, and evaluation of the potential market impact of new transit service. This pool of corridor demand was then allocated to different station area groupings, by time period, by analyzing local market strength, development activity (including planned and proposed projects), infrastructure constraints and plans, land availability, public policy, and development capacity.

FIGURE 7: APPROXIMATE DEVELOPMENT POTENTIAL BY PLAN AREA GROUP, ESTIMATED BY DPP BASED ON TOD PLANS, KNOWN PROJECTS, AND CAPACITY

	Dwelling Units			Commercial/Industrial SF		
Station Area(s)	Existing	TOD	Gross	Existing	TOD	Gross
East Kapolei & UHWO (2 stations)	355	3,479	3,834		422,000	422,000
Hoopili		7,179	7,179		1,500,000	1,500,000
East Kapolei Neighborhood	355	10,658	11,013		1,922,000	1,922,000
West Loch	220	850	1,070	3,366,000	49,000	3,415,000
Waipahu TC	540	1,520	2,060	970,000		970,000
Waipahu Neighborhood	760	2,370	3,130	4,336,000	49,000	4,385,000
Leeward CC		820	820		40,000	40,000
Pearl Highlands	600	1,410	2,010	985,000	120,000	1,105,000
Pearlridge	460	3,440	3,900	2,900,000	90,000	2,990,000
Aiea/Pearl City Neighborhood	1,060	5,670	6,730	3,885,000	250,000	4,135,000
Halawa Area (Aloha Stadium Station)	1,130	4,100	5,230		910,000	
Pearl Harbor	626	1,888	1,430		783,800	
Airport	778	290	1,068		536,200	
Lagoon Drive	686	40	726		411,900	
Airport Area	2,090	2,218	4,308	5,826,000	1,731,900	7,557,900
Middle Street		40			133,710	
Kalihi		850			284,340	
Kapalama		6,607				
Kalihi Neighborhood	3,700	7,497	11,197	4,910,000	418,050	5,328,050
Iwilei		6,152				
Chinatown		1,470			363,560	
Downtown		1,680			927,220	
Downtown Neighborhood	8,800	9,302	18,102	17,100,000	1,290,780	18,390,780
Kakaako	11,800	14,800	26,600			
Ala Moana Neighborhood	9,638	5,600	15,238	14,400,000	2,400,000	16,800,000
TOTAL	**39,333**	**62,215**	**101,548**	**50,457,000**	**8,971,730**	**58,518,730**

Source: City and County of Honolulu Department of Planning and Permitting, 2018.

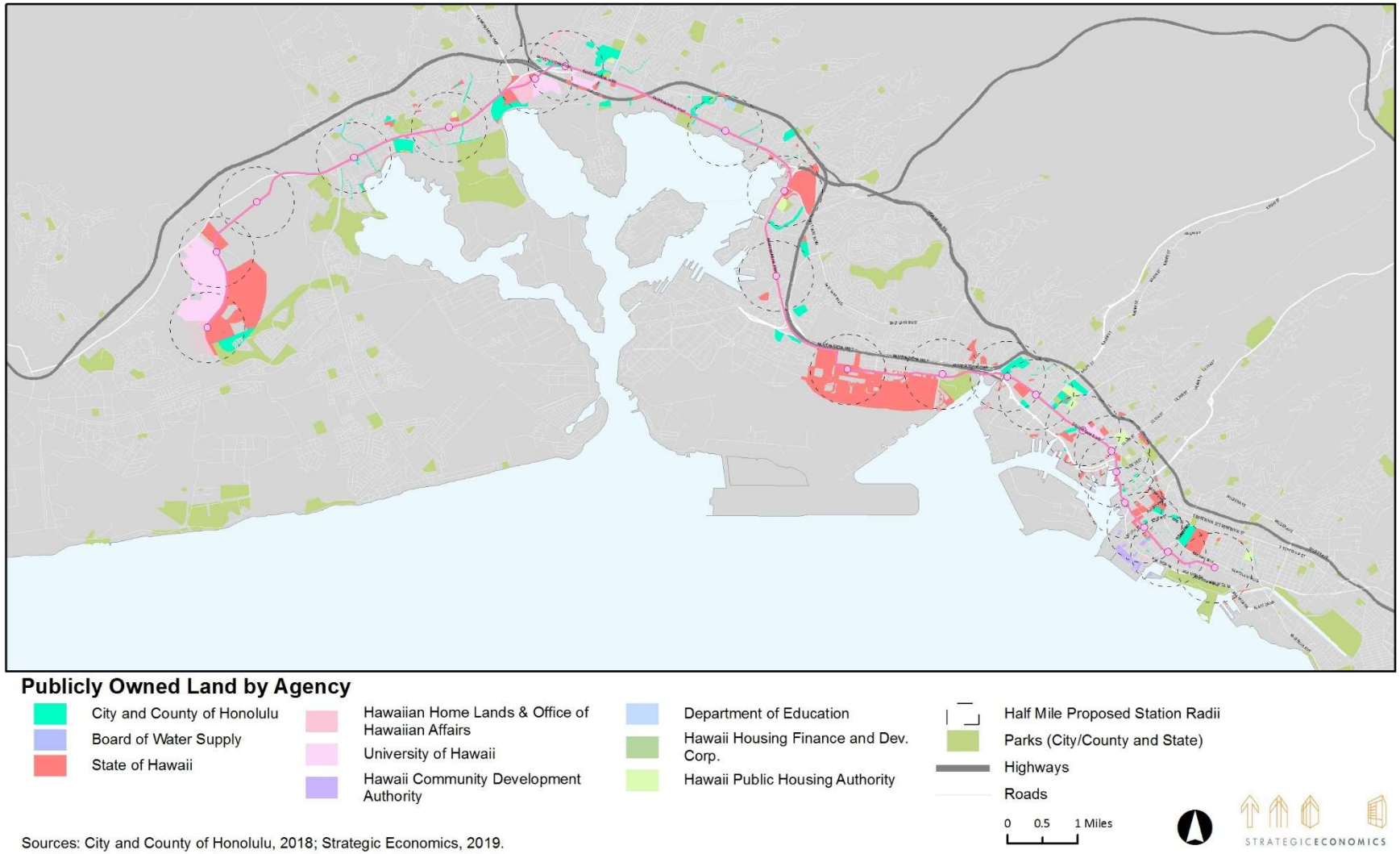
Development Plans for Publicly Owned Lands

Public agencies will exert a significant impact on development activity since they own or control a substantial amount of land along the rail corridor. The map of publicly owned land in Figure 8 demonstrates the important influence of these properties on future development in the TOD areas. Many of these properties are located in the most intensely urbanized parts of the corridor--such as Ala Moana, Kakaako, and Civic Center—while others are in areas planned for rapid growth on the Ewa side of the corridor.

To the extent possible, the development projections incorporated known major development plans at publicly owned lands. Although development is planned for numerous publicly owned properties along or near the rail corridor, the timing and/or total amount of development activity at each property is often uncertain. While this report primarily focuses on demand and development activity from a market perspective, the timing of public efforts to develop publicly owned lands will impact the future pace of development in the station areas.

A subset of relatively short term and/or the most significant development plans was identified through discussion with DPP staff. Although all known potential publicly owned development sites were considered as part of the creation of the development projections, development at many sites was too speculative or long term to directly incorporate in the analysis. The assumptions about planned future development are described for each land use in the subsequent chapters of this report.

FIGURE 8: PUBLICLY OWNED LAND BY AGENCY



Sources: City and County of Honolulu, 2018; Strategic Economics, 2019.

Impacts of Infrastructure Needs on Future Development

The development projections incorporate assumptions about the potential impacts of infrastructure constraints. These potential constraints include large-scale sewer and wastewater improvement needs impacting large segments of the corridor, local sewer and wastewater improvements within the station areas themselves, and local improvements to the network of streets, sidewalks, and bicycle lanes. Based on discussions with DPP staff, significant infrastructure constraints do exist. However, these needs are not assumed to pose a major constraint on development activity, as described below:

- **Large-scale sewer and wastewater needs:** Based on discussion with staff from the Honolulu Department of Environmental Services, the timing and locations of planned large-scale sewer and wastewater improvements align well with the likely phasing and locations of future development activity. These improvements largely consist of improving pump station capacity at various segments of the corridor over time. The development projections in this report assume that planned improvements are completed in time to allow for projected market-driven development activity in different station area groups along the corridor.

- **Local sewer and wastewater needs:** Varying portions of the corridor do require improvements to local sewer lines to enable higher-intensity development—especially in older industrial areas such as Iwilei and Kalihi. However, required infrastructure improvements are anticipated to be addressed by individual development projects and via proactive planning by the City to establish area-specific financing mechanisms. The development projections assume that the cost of local sewer and wastewater needs and other local improvements are not so significant that they preclude development from proceeding, although addressing local needs will require ongoing City efforts.

- **Local connectivity improvement needs:** The creation of functioning, effective transit-oriented districts will require improved street, pedestrian, and bicycle connectivity in nearly all of the station areas. While addressing these needs will be a long term challenge, the City is proactively exploring implementation of new funding and financing mechanisms. Required connectivity improvements are also unlikely to preclude development activity.

There is long term uncertainty about how the impacts of sea level rise and policy responses to mitigate these impacts will influence where and how development will occur. The development projections were unable to incorporate the impacts of sea level rise. However, a recent white paper prepared as part of the creation of an updated "Primary Urban Center Development Plan" by DPP demonstrates that sea level rise is likely to impact several of the station areas in the future.[16] The updated development plan will include specific policy responses to address sea level rise, including where and how future growth should occur.

[16] Sea Grant, "Sea Level Rise & Climate Change: Final White Paper," December 2018. https://www.pucdp.com/copy-of-background-documents

Implications for TOD in Honolulu

The TOD areas have the potential to attract a high proportion of future development on Oahu. Key implications are summarized below.

- **The rail corridor will connect a high proportion of Honolulu's jobs and a number of key destinations.** As mentioned above, transit corridors that connect multiple destinations are more likely to drive ridership, benefit residents and workers, and stimulate the market for new development. The Honolulu Rail Transit Project will connect 45 percent of Honolulu's jobs,[17] as well as the Airport, multiple college campuses, Pearlridge Mall, Ala Moana Center, Chinatown and other destinations. Given existing traffic on H1 and other highways and local roads, the rail transit project is likely to be an attractive option for commuters, which will further encourage development near transit.
- **Housing development activity along the corridor reflects demand for transit-supportive product types.** As discussed in the following chapter, a high percentage of planned housing development projects are located along the corridor and consist of multifamily product types. These locations and product types will support transit ridership and support local vibrancy by concentrating households near the corridor. Those households will also benefit from greater regional transportation access and housing value premiums.
- **The station areas have significant capacity to accommodate growth.** As shown in Figure 7, DPP estimates that the TOD plan areas can accommodate over 62,000 additional housing units and nearly nine million square feet of additional commercial and industrial space.
- **The City has undertaken TOD planning and zoning updates, and is focusing infrastructure investment in the corridor.** TOD plans have been completed or drafted for all station areas in advance of the rail system opening, and mixed-use zoning is being implemented along the corridor. In addition, the City is actively working to focus infrastructure investment to support growth in the corridor, and to address electrical and wastewater constraints. The station areas are also targeted for implementation of 5G cellular service and installation of high speed fiber optic data infrastructure.
- **Public agencies own significant land near the corridor and are planning to pursue major development projects.** While many of these projects are currently undefined or in early planning stages, development of publicly owned lands is likely to generate large numbers of additional housing units (including affordable housing) and commercial space.
- **Improved transit options may help to improve development feasibility.** Development costs in Honolulu are some of the highest in the nation. To the extent that the rail project and integration with other transit and transportation options reduce demand for parking as part of housing, office and other types of development, these mobility options will also reduce the cost of development. For example, a parking space in an above-ground structure can cost between $35,000 and $75,000 to build. Where it is possible to provide fewer parking spaces, this may make it possible for projects to "pencil" with lower expected rents or sales prices; DPP is introducing a land use ordinance amendment that would reduce regional parking requirements. This could help to enable development in areas where high costs have previously been a barrier to feasibility. The increased allowable heights/densities within the TOD plan areas are likely to further improve the feasibility of future TOD development projects.

[17] Based on U.S. Census Longitudinal Employer Household Data for 2015.

IV. HOUSING DEMAND AND DEVELOPMENT PROJECTIONS

Introduction

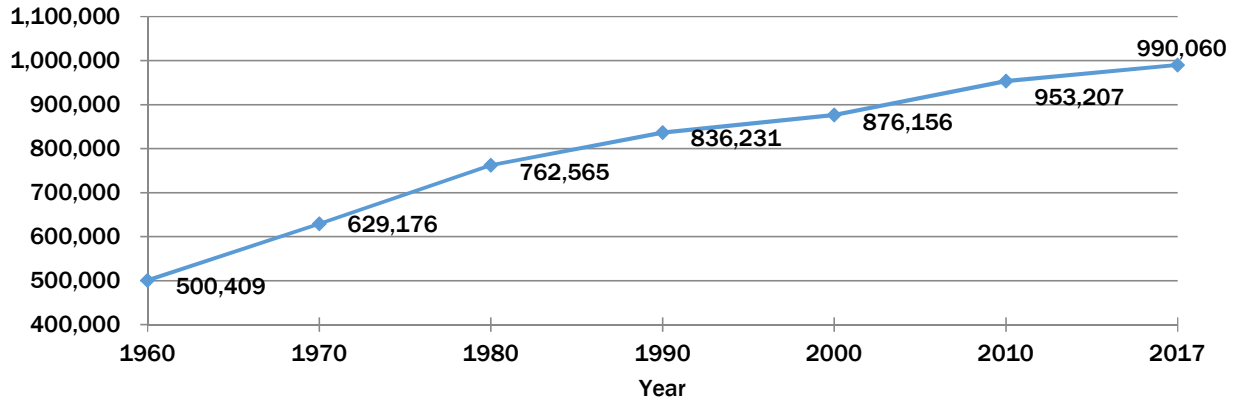
This chapter evaluates the market for residential development in Honolulu's TOD station areas, in the context of broader development trends in Honolulu. This chapter is organized in the following sections:

- **Population and Household Trends:** An overview of demographic characteristics and trends influencing future development in the station areas.
- **Housing Market and Development Trends:** An overview of market trends and recent and planned residential development activity, with a focus on the rail corridor.
- **Opportunities and Constraints:** A summary of opportunities and challenges for residential development in the station areas.
- **County and Corridor Housing Demand and Development Projections:** A summary of County-level demand projections and residential development projections for each of the station area groups from 2018 to 2040.

Population and Household Trends

The resident population of Honolulu is growing relatively slowly, at an average annual rate of 0.7 percent since 2000 (Figure 9). Growth has slowed significantly since the boom period between 1960 and 1980, when the average annual growth rate was 2 percent. Between 2010 and 2017, the rate of population growth averaged 0.5% per year.

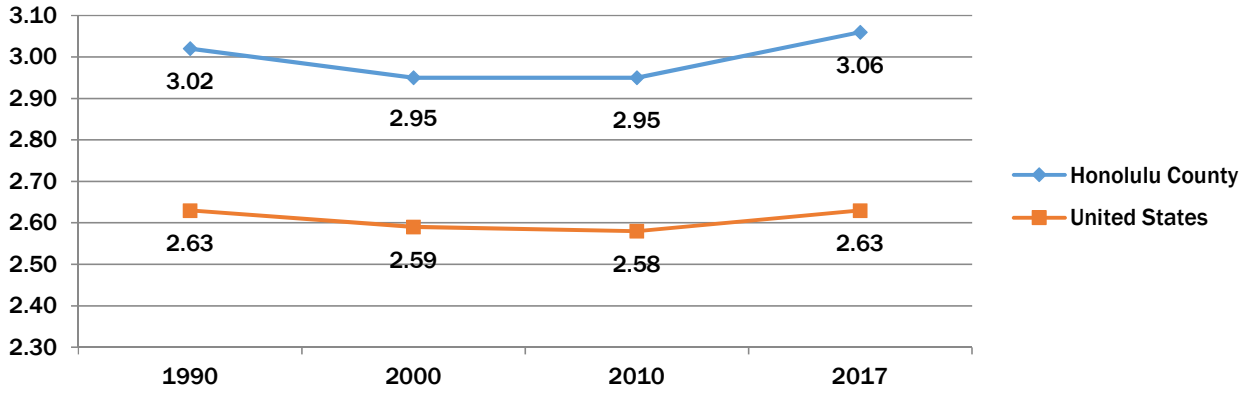
FIGURE 9: POPULATION, HONOLULU, 1960-2017



Source: U.S. Census American Community Survey 5-Year Estimates 2013-2017; Strategic Economics, 2019.

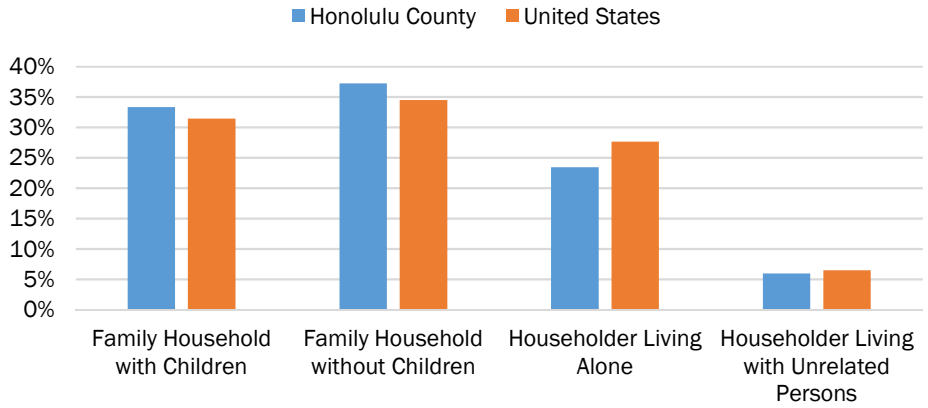
Average household sizes are consistently larger than other parts of the United States (Figure 10). Compared to the U.S overall, Honolulu also has a higher share of family households and lower share of householders living alone (Figure 11). Honolulu's relatively large household sizes reflect the high cost of housing (resulting in more shared housing units), as well as a higher number of multi-generational households.

FIGURE 10: AVERAGE HOUSEHOLD SIZE, HONOLULU AND THE UNITED STATES, 1990-2017



Source: U.S. Census Decennial Census 1990, 2000; U.S. Census American Community Survey 5-Year Estimates, 2013-2017; Strategic Economics, 2019.

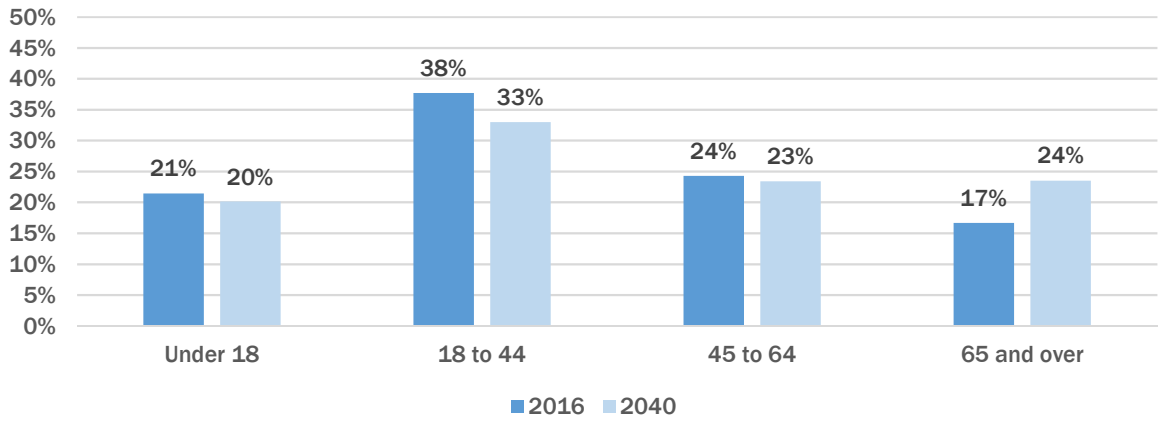
FIGURE 11: HOUSEHOLD TYPES: HONOLULU AND THE UNITED STATES, 2017



Source: U.S. Census American Community Survey 5-Year Estimates, 2013-2017; Strategic Economics, 2019.

The share of the population aged 65 or over is increasing. Currently, about 17 percent of Honolulu residents are aged 65 or over; by 2040, this group is projected to represent nearly one-quarter of the population (24 percent). Meanwhile, the share of all other age groups is expected to decline. This shift suggests that household sizes are likely to decrease, and that fewer households will include children.

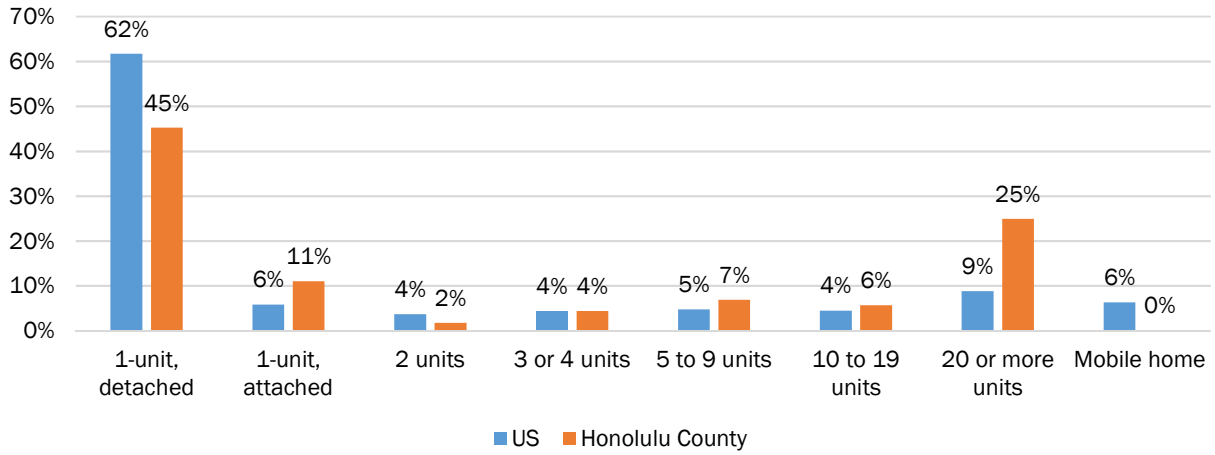
FIGURE 12: POPULATION BY AGE GROUP, HONOLULU, 2016 AND 2040



Source: State of Hawaii DBEDT 2045 projections, 2018.

Compared to the United States overall, Honolulu's residents are much more likely to live in multifamily buildings, especially in larger buildings. Figure 13 shows Honolulu's relatively low concentration of single family detached or attached homes (45 percent versus 62 percent) and significantly high concentration of units in buildings with 20 or more units (25 percent).

FIGURE 13: DISTRIBUTION OF HOUSING BY UNITS IN STRUCTURE, HONOLULU, 2017



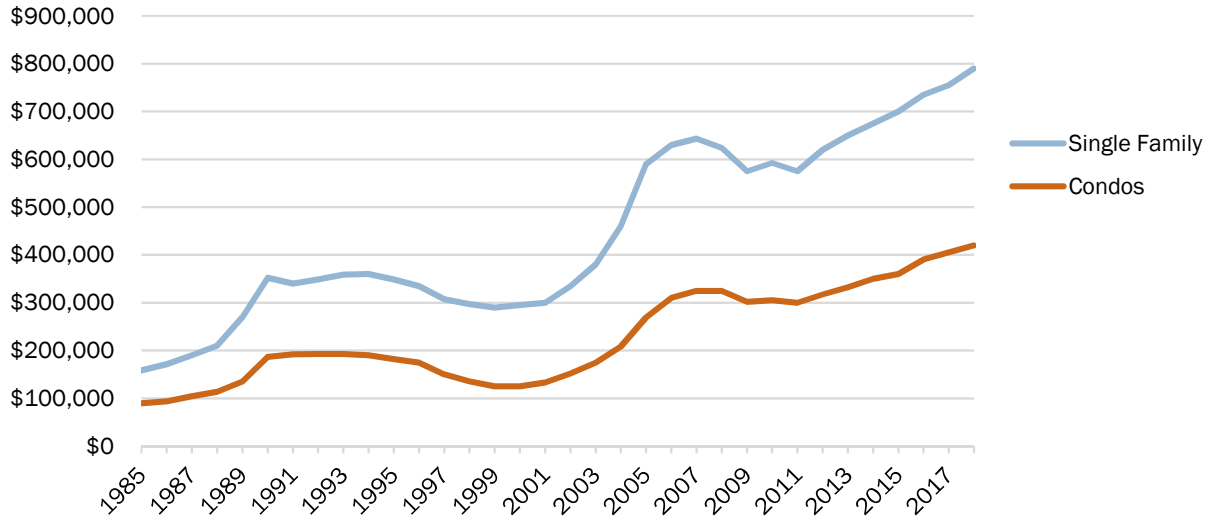
Source: U.S. Census American Community Survey 5-Year Estimates, 2013-2017; Strategic Economics, 2019.

Housing affordability is a major challenge. As of 2017, the Census estimated that 38 percent of resident homeowners and 58 percent of renters paid 30 percent or more of their income for housing.

Housing Market and Development Trends

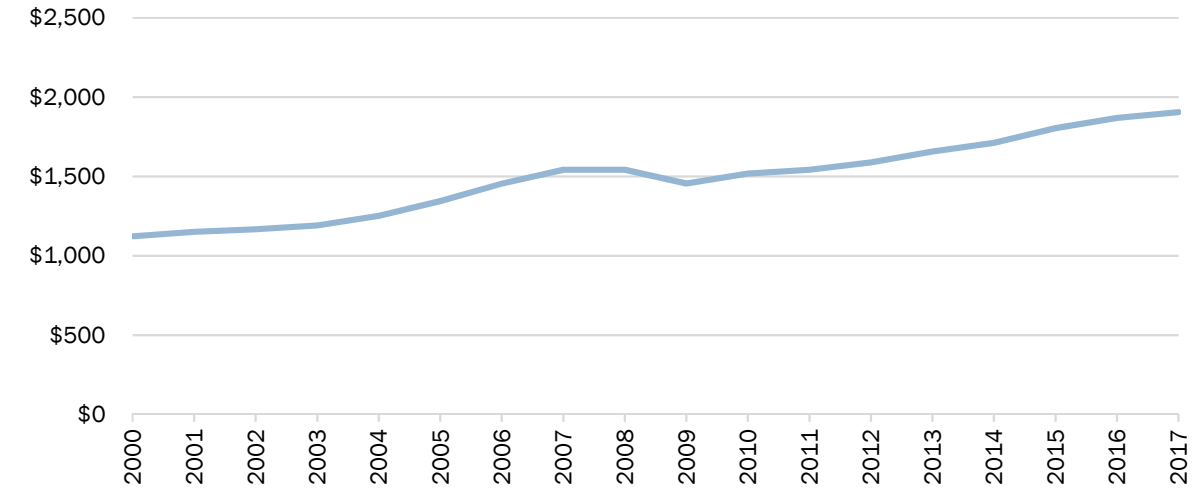
Honolulu's home prices and rents have climbed steadily since the 2007-2009 economic recession, with growth in demand outpacing housing construction. Since 2010, the median sales price for both single-family homes and condos grew at an average rate of four percent annually (Figure 14). Between 2009 and 2017, rents increased by approximately 30 percent (Figure 15).

FIGURE 14: SINGLE FAMILY AND CONDOMINIUM MEDIAN SALES PRICES: HONOLULU, 1985-2018



Source: Honolulu Board of Realtors, 2018.

FIGURE 15: MEDIAN RENT FOR MARKET RATE MULTIFAMILY UNITS: HONOLULU, 2000-2017



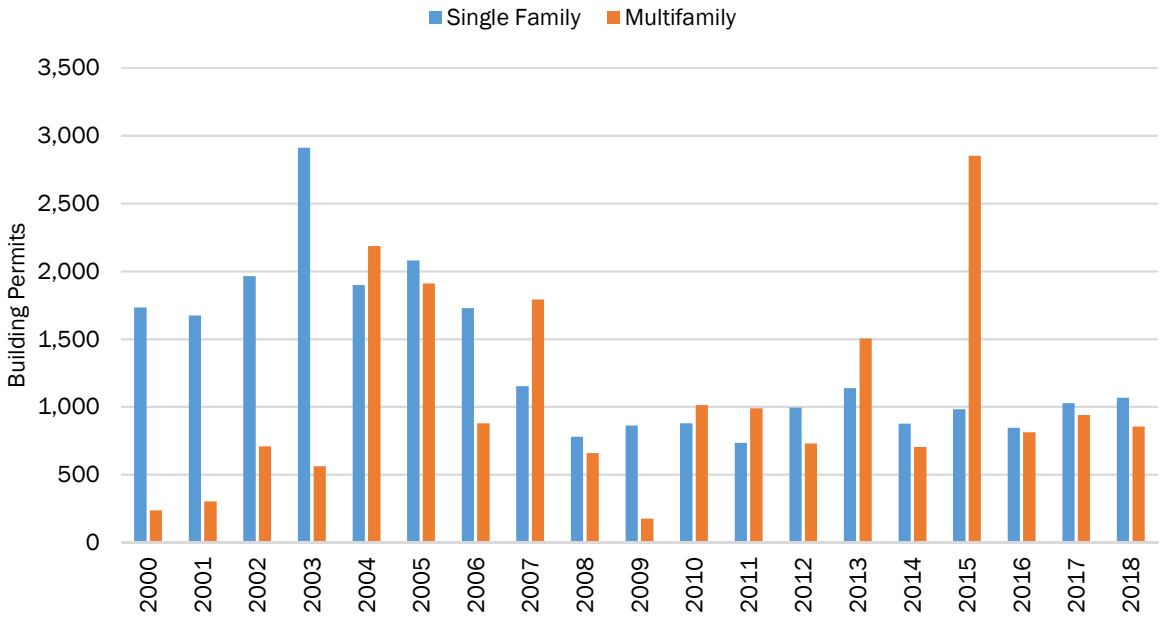
Source: Costar, 2018.

Demand for second homes and vacation rentals places additional pressure on the housing market. According to the Census, between 2000 and 2017, the number of units held for seasonal, recreational or occasional use in Honolulu increased by 86 percent, to 16,392 units. During that same time period, the overall number of housing units only increased four percent. These units are more likely to be held by out-of-state and international buyers, who can afford higher prices.[18]

The presence of the military also has an impact on the housing market. As of 2015, an estimated 40,674 military personnel lived in Honolulu, along with an estimated 53,900 dependents, many of whom live off base. The Basic Allowance for Housing (BAH), which is provided to military personnel who choose to live in private housing, has increased faster than rents over the past decade. The 2016 Hawaii Housing Study prepared for the State of Hawaii by SMS found that the BAH for enlisted personnel was greater than the amount that a household with Honolulu's median income can afford. Because the BAH is set each year based on area rents and cost of living increases, it has the potential to drive rents upward over time.

A growing proportion of residential development activity consists of multifamily units. Since the end of the economic recession, the share of multifamily building permits increased significantly, due almost entirely to a high number of new multifamily permits in 2015. Meanwhile, permits for single family construction remained flat, ranging between about 750 and 1,000 units per year (Figure 16). Between 2010 and 2018, 55 percent of building permits were for multifamily units.

FIGURE 16: BUILDING PERMITS BY PRODUCT TYPE, 2000-2018



Source: U.S. Housing and Urban Development, State of the Cities Data Systems, 2018.

[18] SMS, Hawaii Housing Planning Study, 2016. Prepared for the Hawaii Housing Finance and Development Corporation, December 2016, p. 16. According to the study, between 2008 and 2015 approximately 15 percent of all sales in Honolulu were to persons with out-of-state addresses. The study also found that statewide, prices paid by international buyers were 65 percent higher than that paid by local buyers. Sales prices paid by mainland buyers were 28 percent higher than prices paid by local buyers.

RECENT AND PLANNED DEVELOPMENT

A high share of recent and future planned development is focused in the station areas (Figure 17). Between 2010 and 2017, over 13,000 units were completed on Oahu. Of those units, 37 percent were within the TOD plan areas. The transit corridor appears to be attracting a growing share of future development: 55 percent of housing units planned to begin construction between 2018 and 2021 and 61 percent of units expected between 2021 and 2030 are located in the station areas. Only 33 percent of currently planned projects that are expected to begin construction after 2030 are in the corridor station areas, although this period includes very large master planned projects elsewhere on Oahu that are expected to build out over a very long time (e.g., Waiawa, planned by Castle and Cooke).

The Ala Moana-Kakaako-Civic Center station area group is currently experiencing the greatest amount of residential development activity, followed by the Hoopili-UH West Oahu-East Kapolei station area group. As shown in Figure 17, 30 percent of recent residential development was in the Ala Moana-Kakaako-Civic Center station area group. Major recent residential projects included Kapiolani Residence, Gateway Towers, Keauhou Place, and Park Lane. In the Hoopili-UH West Oahu-East Kapolei station area group, D.R. Horton's phased master planned development will ultimately add 11,750 units. Over the next few years (2018-2021), over one third of planned development is in the Ala Moana-Kakaako-Civic Center station area group, and 18 percent is in the Hoopili-UH West Oahu-East Kapolei station area group.

In the longer term, residential projects are being planned in the Iwilei-Kapalama-Kalihi-Middle Street, Pearl Harbor-Aloha Stadium, Pearlridge, and Hoopili -UH West Oahu-East Kapolei station area groups. These areas have major property owners, including the State, that are planning for redevelopment of properties. They are also planned for infrastructure improvements (new roads, sewer, drainage) that will help to enable higher density development. Projects include major redevelopment of existing Hawaii Public Housing Authority (HPHA) projects, such as Mayor Wright in Kalihi, Kamehameha and Kaahumanu Homes in Kalihi-Palama, Puuwai Momi in Aiea, and Kamalu Hoolulu in Waipahu. A considerable number of market-rate units are also planned in Pearlridge, mostly as part of the proposed "Live Work Play Aiea" project on the former site of the Kamehameha Drive-In Theater.

FIGURE 17: HOUSING DEVELOPMENT ACTIVITY COMPLETED (2010-2017) AND KNOWN PROJECTS UNDER CONSTRUCTION OR PLANNED (2018-2040), IN NUMBER OF HOUSING UNITS

	Completed 2010-2017		Planned 2018-2021		Planned 2022-2030		Planned 2031-2040	
Location	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Ala Moana, Kakaako, Civic Center	3,886	30%	4,107	34%	4,436	11%	262	1%
Downtown, Chinatown	0	0%	147	1%	151	0%	0	0%
Iwilei, Kapalama, Kalihi, Middle Street	160	1%	214	2%	5,945	15%	3,167	14%
Airport, Lagoon Drive	0	0%	0	0%	0	0%	0	0%
Pearl Harbor, Aloha Stadium	0	0%	0	0%	2,140	5%	0	0%
Pearlridge	0	0%	0	0%	300	1%	1,500	7%
Pearl Highlands, Leeward CC	166	1%	0	0%	960	2%	0	0%
Waipahu, West Loch	0	0%	40	0%	1,440	4%	0	0%
Hoopili, UH West Oahu, East Kapolei	658	5%	2,200	18%	8,670	22%	2,325	11%
Corridor	**4,870**	**37%**	**6,708**	**55%**	**24,042**	**61%**	**7,254**	**33%**
Outside Corridor	**8,226**	**63%**	**5,544**	**45%**	**15,281**	**39%**	**14,875**	**67%**
Total, Countywide	**13,096**	**100%**	**12,252**	**100%**	**39,323**	**100%**	**22,129**	**100%**
Corridor % of County	***37%***		***55%***		***61%***		***33%***	
Outside Corridor % of County	***63%***		***45%***		***39%***		***67%***	

Note: Residential development data for each station area was summarized by grouping of transportation analysis zones (TAZ).
Source: City and County of Honolulu Department of Planning and Permitting, 2018 (selectively updated in 2019); Strategic Economics, 2019.

Opportunities and Constraints

This section summarizes key opportunities and constraints for housing development along the rail corridor.

OPPORTUNITIES

- **Development trends are shifting to favor locations along the corridor.** As shown in Figure 17 above, approximately 38,000 residential units are planned for the corridor. Sixty percent of residential units currently planned for development on Oahu between 2018 and 2030 are located in the TOD station areas.
- **Major property owners, including the State, are planning major projects near future rail stations.** As discussed above, major property owners including the State and Kamehameha Schools are planning major redevelopment projects in the future station areas, especially in the Iwilei/Kapalama area.
- **The TOD areas are expected to grow their appeal as locations for residential development over time.** In the short term, residential development may be concentrated only in Ala Moana, Kakaako, and Hoopili. In the longer term, once transit service begins, and TOD policies and projects are implemented, other TOD areas are expected to become increasingly attractive as residential locations.
- **The rail project, combined with local infrastructure investments to promote connectivity within neighborhoods, can help to improve development feasibility in neighborhoods that have not seen recent investment.** As discussed in detail below, one of the major challenges for development feasibility, especially for mid-rise development, is the high cost to provide structured parking. To the extent that the new rail project and other investments in the public realm makes it possible for households to reduce the number of automobiles they own, this will allow developers to save on the cost of structured parking, improving development feasibility. In addition, the enhanced access provided by the rail project will also increase the relative value of the station areas, which will be reflected in higher sales prices and rents.

CONSTRAINTS

- **High development costs are a major challenge for housing development.** The costs of building materials, labor, and land in Honolulu are consistently among the highest in the U.S., and rose substantially during the recent building boom. The high cost of new construction pushes developers to build to the top of the residential market in order to achieve revenues high enough to offset high costs. The cost structure of development also favors residential projects that are either very high density or low density. In neighborhoods such as Ala Moana and Kakaako, developers can achieve sales prices and rents high enough to make high rise development feasible. Meanwhile, in neighborhoods such as Kapolei and ʻEwa, development tends to consist of very low-density building types such as single-family homes, townhomes and two- to three-story multiplexes with surface parking that are less expensive to build on a per square foot basis. In these areas, even a four-story building is often cost prohibitive due to the additional cost to build structured parking.
- **In many locations, especially existing neighborhoods, significant investments in infrastructure capacity are required in order to enable development.** These costs can be more than an individual development project can bear, especially in the case of smaller infill projects.

- **Affordable housing developers face additional challenges.** Affordable housing developers consistently cite a number of barriers, including a lack of funding sources for pre-development "soft" costs, difficulty in competing with market rate developers for site acquisition, and challenges associated with competing for and assembling financing for affordable projects.

County and Corridor Housing Demand and Development Projections

COUNTYWIDE HOUSING DEMAND PROJECTIONS

Strategic Economics used housing unit projections provided by the Honolulu Department of Planning and Permitting (DPP) as the basis for the TOD projections, shown in Figure 18. As shown, total housing demand is expected to grow from 359,000 in 2018 to 414,600 in 2040, an increase of 16.2 percent over the period.

FIGURE 18: PROJECTED COUNTYWIDE HOUSING DEMAND, 2018 TO 2040

	2018	2030	2040
Estimated total housing demand	359,000	392,500	414,600

Source: DPP, 2019.

PROJECTIONS FOR THE TOD CORRIDOR BY STATION AREA GROUP

Housing projections for the corridor were estimated for the short term (2018-2030) and for the longer term (2030-2040) using a range of capture rates, described below.

The low scenario assumes that the corridor captures 60 percent of projected County growth between 2018 and 2030, based on current planned development. Between 2030 and 2040, the low scenario assumes that the corridor captures 65 percent of County growth.

The high scenario assumes that the corridor captures 65 percent of Countywide growth between 2018 and 2030, and 70 percent between 2030 and 2040.

The corridor demand was allocated to station area groups using capture rates that reflect the location of planned development and expected timing of infrastructure projects that will help to enable development, and assuming a growing preference for development to locate in the station areas over time. The same assumptions about station area capture rates were used in both the high and low scenarios. Through 2030, development is expected to continue to be concentrated in the Ala Moana, Kakaako and Hoopilii areas, with some development also occurring in the Iwilei to Middle Street and Pearl Harbor/Aloha Stadium station area groups. In the longer term, development is projected to shift toward the Iwilei to Middle Street station area group, Pearl Harbor/Aloha Stadium, and the Pearlridge station area.

Based on these assumptions, Figure 2 shows projected residential development by station area group. Total demand for housing units in the corridor is projected to be between 34,465 and 37,245 between 2018 and 2040.

V. OFFICE SPACE DEMAND AND DEVELOPMENT PROJECTIONS

Introduction

This chapter evaluates the market for office development in Honolulu's TOD station areas, in the context of broader market and development trends in Honolulu.

This chapter is organized in the following sections:

- **Office Real Estate Market Trends**: An overview of office market rent and occupancy trends.
- **Opportunities and Constraints**: A summary of opportunities and challenges for office development in the station areas.
- **County and Corridor Office Demand:** A summary of County projections and the expected amount of demand that can be captured along the rail corridor.
- **Office Development Projections by Station Area Group:** Projected office demand for each of the station area groups from 2018 to 2040.

Office Real Estate Market Trends

Jobs in the "Professional and Business Services" sector—a major driver of demand for office space—constitute 14 percent of Oahu's employment and have grown since 2010. According to DBEDT employment data for 2016, jobs in Professional and Business Services sector made up 14 percent of Honolulu's 476,000 total wage and salary jobs. These jobs are often office-based and therefore drive demand for office space. Government jobs, which also drive demand for office space, constituted 20 percent of Honolulu's wage and salary jobs in 2016. While Government job growth is relatively slow, the Professional and Business Services sector is among the fastest growing in Honolulu, with 16 percent growth since 2010.

The future rail corridor contains a significant concentration of Honolulu's office inventory. Major office locations along the corridor include Honolulu's Central Business District/Downtown and Ala Moana (Figure 19). Combined, they represent nearly three-quarters of Honolulu's office inventory, or 10.7 million square feet of office space.

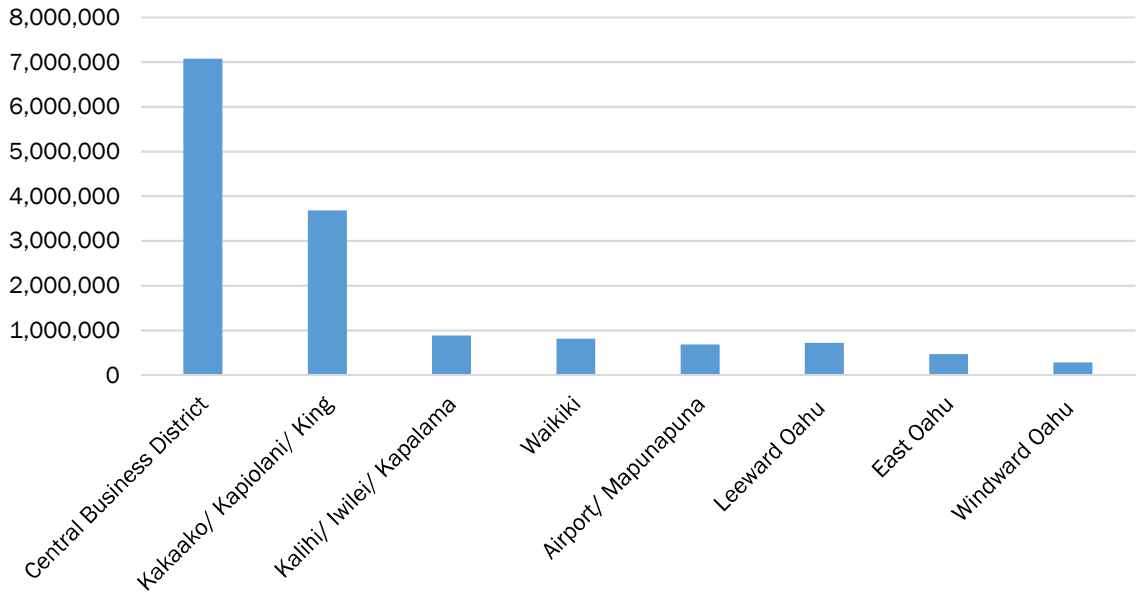
The office market is characterized by relatively high vacancy rates, slow absorption, and stable rent growth. Since 2010, Honolulu's office vacancy rate has exceeded 10 percent, and reached a new high of 13 percent at the end of 2018. Except for a period of significant negative net absorption of office space from 2008 to 2010, Honolulu's office market is generally stable, with slow absorption of office space. Average asking rents grew by three percent between the second quarters of 2017 and the fourth quarter of 2018 (Figure 20). The office average asking rent of $1.76 per square foot monthly marks the highest level in more than 20 years, according to Colliers International brokerage.

There has been limited commercial office development since the 1990s. Aside from civic buildings and some owner-user office buildings built in Kapolei, office development has been limited to small-scale offices or medical properties since the 1990s. The new American Savings Bank headquarters recently opened across Aala Park near Chinatown; however, the company plans to vacate more than

100,000 square feet of office space in buildings across Honolulu as part of a consolidation. In addition, two major renovations of long vacant office buildings were completed in Honolulu recently: the historic Honolulu Advertiser building on Kapiolani Boulevard and the State of Hawaii's Princess Victoria Kamamalu building in Downtown.

Pressure for conversion of office space to other uses may result in a short term significant loss of office inventory. Due to Honolulu's slow office growth and increasing demand for other uses such as residential and hotel, some building owners and investors have begun to convert office space to other uses. For example, the 22-story Waikiki Trade Center was converted to a Hyatt hotel in 2017. In 2018, the long-vacant Queen Emma Building received approval for financing from the Hawaii Housing Finance and Development Corporation (HHFDC) to convert the former office building into affordable rental apartments.[19] There are also plans underway to convert the 1131 Bishop building in Downtown to housing.[20]

FIGURE 19: OFFICE INVENTORY (SQUARE FEET) BY SUBMARKET



Note: Inventory includes office buildings greater than 20,000 square feet located on the island of Oahu. Owner-occupied, government, and medical buildings are not included.
Source: Colliers International, Q4 2018; Strategic Economics, 2018.

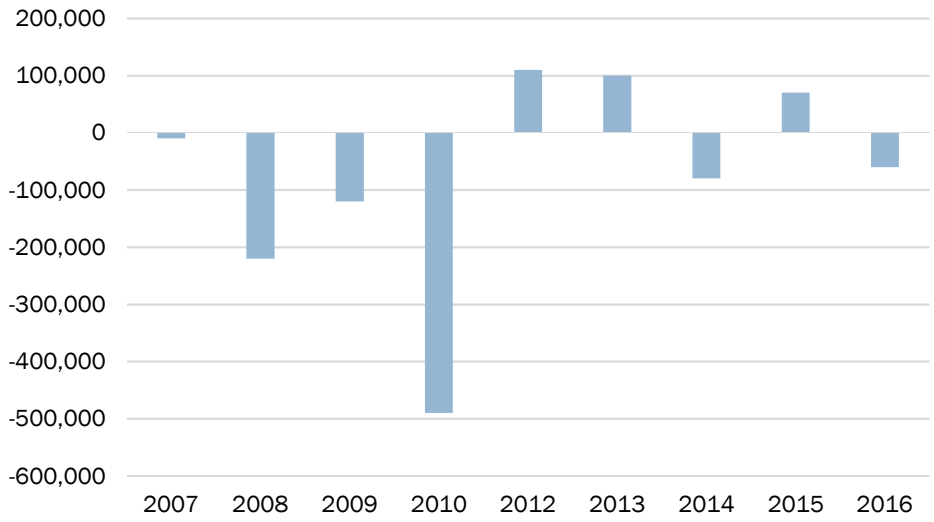
[19] https://www.bizjournals.com/pacific/news/2018/07/19/developer-ahe-group-completes-rehab-of-64-unit.html
[20] https://www.bizjournals.com/pacific/news/2019/02/12/douglas-emmett-to-turn-honolulu-office-building.html

FIGURE 20: OFFICE VACANCY RATES AND ASKING RENTS BY SUBMARKET, 2ND QUARTER 2017 AND 4TH QUARTER 2018

	Vacancy Rate		Average Asking Rent*		
Submarket	2017-Q2 %	2018-Q4 %	2017-Q2 Per SQFT	2018-Q4 Per SQFT	% Change
Central Business District/Downtown	15%	16%	$1.42	$1.50	6%
Kakaako/Kapiolani/King	12%	11%	$1.62	$1.63	0%
Kalihi/Iwilei/Kapalama	8%	10%	$1.47	$1.54	5%
Waikiki	8%	8%	$2.17	$2.00	-8%
Airport/Mapunapuna	10%	11%	$1.64	$1.65	1%
Leeward Oahu	8%	6%	$2.37	$2.28	-4%
East Oahu	4%	2%	$2.21	$2.35	6%
Windward Oahu	4%	10%	$1.94	$2.00	3%
Total	**12%**	**13%**	**$1.70**	**$1.76**	**3%**

*Average of low and high asking rents for triple net leases, in which tenants are responsible for taxes, insurance, and maintenance costs.
Source: Colliers International, Q2 2017, Q4 2018; Strategic Economics, 2019.

FIGURE 21: APPROXIMATE ANNUAL NET ABSORPTION OF OFFICE SPACE: HONOLULU, 2007-2016



Source: Colliers International, 2017.

Opportunities and Constraints

OPPORTUNITIES

New office development is likely to cluster in existing major office districts, such as Downtown and Ala Moana. The planned rail stations in these areas will further improve their regional access. Rail access will also support higher employment densities within the existing office districts since they will be easily accessed without concern for traffic or parking. As described earlier, the enhanced access provided by rail transit will likely translate into higher values and rents, since businesses are willing to pay more for this convenience.

The TOD plans provide an opportunity to protect and expand office and research and development space to support the growth of innovative and creative industries, particularly in locations near the planned transit stations. The State is prioritizing growth of economic activity in innovative and creative industries as a means of diversifying the economy. In an effort to attract new investment and businesses that can create more skilled and high-quality jobs, the State has taken an active role in promoting the development of high-tech, knowledge-based and other emerging industries, such as clean energy, biotechnology/health sciences, marine- and energy-related research and development, communications, media, and technology.

CONSTRAINTS

Honolulu has experienced very limited office development in recent years. According to brokers, Honolulu's office market has struggled with low absorption, high vacancy rates, and minimal growth in new inventory and office demand. The new American Savings Bank headquarters will be the only new major office building constructed in decades. However, the bank's relocation to this building is the result of a major consolidation of several office buildings across Honolulu, which will all be vacated once the new headquarters building is completed.

Companies are utilizing less office space per employee. For a variety of reasons, including slow office growth, the rise of modular offices and open layouts, teleworking, and operational cost savings, companies are not leasing as much office space as they did in the past. Both national and local trends show that average amount of office space per employee has been decreasing.[21]

While rail transit is likely to support growth near future station areas and shift office location preferences, suburban locations with abundant parking remain popular. According to brokers interviewed for this study, parking and traffic conditions are important factors for office site selection by potential tenants. As a result, some office tenants remain drawn to relatively suburban locations away from the urban core of Honolulu.

County and Corridor Office Demand

Strategic Economics estimated short and long term demand for additional office space at the county and corridor level. Demand was measured using a "top down" approach, in which the countywide potential pool of demand was estimated, followed by the corridor's potential to capture this demand. This method recognizes the potential impact of new fast, reliable, and direct rail service on influencing location decisions for office users seeking space in transit-oriented locations. The countywide demand estimates were based on the most recent employment projections published by the State; these projections were translated into growth in demand based on the typical square feet of office space required per worker.

PROJECTED EMPLOYMENT GROWTH IN "OFFICE-BASED" INDUSTRY SECTORS

Strategic Economics examined projected employment growth in industry sectors that are most closely associated with generating demand for office space. These "office-based" sectors include information, finance and insurance, real estate, professional services, and business services. In the State of

[21] Miller, Norman (2014). Workplace Trends in Office Space: Implications for Future Office Demand.
(footnote continued)

Hawaii's most recent employment projections,[22] Honolulu's jobs in office-based industry sectors were expected to grow at an average rate of 0.9 percent annually to 2040, which is consistent with past trends.[23] In the short term (2018-2030), DBEDT forecasted that employment in these office-based industry sectors will grow on average by one percent annually. In the longer term (2030-2040), DBEDT projects that employment growth in the office-based sectors will slow to an average rate of 0.6 percent annually. Figure 22 shows DBEDT's employment projections for these sectors.

FIGURE 22: PROJECTED EMPLOYMENT GROWTH IN LARGELY "OFFICE-BASED" INDUSTRY SECTORS, 2018-2040

	2018*	2030	2040	Net Growth, 2017-2030	Net Growth, 2030-2040
Information	8,776	8,970	9,300	194	330
Finance and insurance	23,852	25,370	26,190	1,518	820
Real estate and rentals	28,106	31,730	33,910	3,624	2,180
Professional services	36,968	42,470	45,460	5,502	2,990
Business services	55,077	64,230	69,430	9,153	5,200
Office-Based Employment	**152,779**	**172,770**	**184,290**	**19,991**	**11,520**
Average Annual Growth Rates					
2018-2030	1.0%				
2030-2040	0.6%				
2018-2040	0.9%				

*Actual 2018 figure was not available. To estimate 2018 employment, DBEDT's 2016-2040 annual growth rate was applied to 2016.
Sources: State of Hawaii DBEDT, 2018; Strategic Economics, 2019.

COUNTYWIDE OFFICE DEMAND GROWTH

Strategic Economics translated office-based employment growth into demand for office space, using the following assumptions, shown in Figure 23:

1) The estimate utilized a range of assumptions about the proportion of jobs in each sector that will be associated with office space, given that sectors do not align perfectly with job locations and settings;

2) Office employees were assumed to occupy an average of 200 square feet of space;

3) Future growth in demand was assumed to be accommodated in existing vacant office space until a stable office vacancy rate of five percent is achieved; the demand analysis also nets out space currently under construction (essentially assuming that this space serves the existing pool of demand) and incorporates a five percent vacancy rate assumption for new office demand. These assumptions result in a conservative estimate of future growth in office demand by assuming that vacant space must be occupied before additional development can proceed in earnest. The assumptions are summarized in Figure 23. Based on these assumptions, Figure 24 shows the projected growth in demand for office space in Honolulu.

[22] DBEDT. 2045 Series of DBEDT Population and Economic Projections, June 2018.
[23] An analysis of DBEDT's total wage and salary employment between 1999 and 2017 showed that office-based employment (information, financial activities, professional and business services) grew by 0.9 percent on average annually.

FIGURE 23: ASSUMPTIONS FOR ESTIMATING HONOLULU'S GROWTH IN DEMAND FOR OFFICE SPACE

1) Proportion of jobs that will be located in traditional offices, by sector:	
Information	85%
Finance and insurance	85%
Real estate and rentals	50%
Professional services	75%
Business services	25%
2) Office Space Demand	200 sq. ft.
3) Stabilized vacancy rate after absorbing existing vacant office space	5%

Source: Strategic Economics, 2019.

FIGURE 24: OFFICE DEMAND GROWTH ESTIMATE FOR HONOLULU

	2018-2030	2030-2040	Total
Office Sq. Ft. Demand*			
Information	34,692	59,053	93,744
Finance and insurance	271,658	146,737	418,395
Real estate and rentals	381,514	229,474	610,988
Professional services	868,672	472,105	1,340,777
Business services	481,715	273,684	755,400
Total	2,038,251	1,181,053	3,219,304
*Less: Absorption of Vacant Space and Space Under Construction***	*1,558,593*		
Total Demand	479,658	1,181,053	1,660,710

*Countywide office demand after adjusting for share of jobs that are actually office-based and applying an assumed 200 square feet per employee.
**Represents absorption of existing vacant space to achieve a 5% stable vacancy rate, and nets out space currently under construction.
Source: DBEDT, 2017; Colliers, 2nd quarter of 2018; Strategic Economics, 2019.

CORRIDOR CAPTURE RATES AND TOD GROWTH SCENARIOS

Strategic Economics projected a range of office demand for the rail corridor the rail corridor. Figure 25 shows assumed corridor capture rates of growth in office demand for two time periods (2018-2030 and 2030-2040) and two scenarios. In the low scenario, the rail corridor captures 70 percent of Honolulu's jobs in office-based industry sectors in the short term, and 80 percent between 2030 and 2040.The high scenario assumes that the corridor captures 80 percent of projected office job growth in the short term, and 90 percent in the long term.

In the short term (2018-2030), office growth is expected to continue to occur in existing office locations, most of which are concentrated along the TOD corridor. In the longer term (2030-2040), once the new rail transit service has been running for a few years and major infrastructure projects are completed (i.e., additional sewer pump stations, drainage, new roads, etc.), the TOD corridor is projected to capture a higher share of office demand. The rail project is expected to continue to attract businesses seeking transit-rich locations that offer workers easier commutes and enhanced access for clients and customers. Therefore, the capture rate was assumed to be 10 percent higher in the longer term.

FIGURE 25: CORRIDOR CAPTURE RATES OF GROWTH IN HONOLULU OFFICE SPACE DEMAND

	2018-2030	2030-2040
Low Scenario: Existing Trends	70%	80%
High Scenario: More Intense TOD Demand	80%	90%

Source: Strategic Economics, 2019.

Office Development Projections by Station Area Group

Office development projections by station area group were developed for the short term (2018-2030) and for the longer term (2030-2040) based on corridor-wide capture of future demand for office space, recent office development activity, known plans on privately and publicly owned lands, and planned infrastructure projects that will help to enable development in certain station areas.

In the short term (2018-2030), office growth is assumed to continue in existing concentrations of office space, such as Downtown and Ala Moana, and secondary office locations in the Airport, Pearlridge, and Waipahu areas. In the short term, new transit adds the most value to locations where the additional accessibility of transit enhances the underlying value of an already desirable location.

In the longer term (2030-2040), office growth is expected to be more distributed along the entire corridor after the transit system has matured, major infrastructure projects are fully completed, and new dining and amenities are added in TOD station areas. A well designed and convenient transit system can shift the location decisions of businesses seeking space in more transit-accessible locations to attract and retain their workers who prefer multiple options for commuting to work as well as access to dining, services, and entertainment options.

Based on these considerations, the office development projections were allocated by station area growth in the short term (2018-2030) and longer term (2030-2040) as shown in Figure 26.

FIGURE 26: ALLOCATION OF TOD OFFICE GROWTH BY STATION AREA GROUP (HIGH AND LOW SCENARIOS)*

Station Area Group	2018-2030	2030-2040
Ala Moana, Kakaako, Civic Center	30%	20%
Downtown, Chinatown	50%	50%
Iwilei, Kapalama, Kalihi, Middle Street	5%	5%
Lagoon Drive, Airport	5%	7%
Pearl Harbor, Aloha Stadium	2%	5%
Pearlridge	1%	1%
Pearl Highlands, Leeward Community College	1%	1%
Waipahu, West Loch	1%	1%
Hoopili, UH West Oahu, East Kapolei	5%	10%
Total	**100%**	**100%**

*The projections assume the same allocation by station area group for both scenarios.
Source: Strategic Economics, 2019.

PROJECTED OFFICE DEVELOPMENT

Figure 27 and Figure 28 show office development projections by station area group between 2018-2030 and 2030-2040. Based on this analysis, projected office development is expected to total between 1.28 million square feet to 1.45 million square feet of office space by 2040.

FIGURE 27: LOW SCENARIO: PROJECTED OFFICE SPACE (SQUARE FEET) BY STATION AREA GROUP

Station Area Group	2018-2030	2030-2040	Total
Ala Moana, Kakaako, Civic Center	100,700	189,000	289,700
Downtown, Chinatown	167,900	472,400	640,300
Iwilei, Kapalama, Kalihi, Middle Street	16,800	47,200	64,000
Airport, Lagoon Drive	16,800	66,100	82,900
Pearl Harbor, Aloha Stadium	6,700	47,200	53,900
Pearlridge	3,400	9,400	12,800
Pearl Highlands, Leeward Community College	3,400	9,400	12,800
Waipahu, West Loch	3,400	9,400	12,800
Hoopili, UH West Oahu, East Kapolei	16,800	94,500	111,300
Total Corridor	**335,800**	**944,800**	**1,280,600**

Numbers may not sum due to rounding.
Source: Strategic Economics, 2019.

FIGURE 28: HIGH SCENARIO: PROJECTED OFFICE SPACE (SQUARE FEET) BY STATION AREA GROUP

Station Area Group	2018-2030	2030-2040	Total
Ala Moana, Kakaako, Civic Center	115,100	212,600	327,700
Downtown, Chinatown	191,900	531,500	723,400
Iwilei, Kapalama, Kalihi, Middle Street	19,200	53,100	72,300
Airport, Lagoon Drive	19,200	74,400	93,600
Pearl Harbor, Aloha Stadium	7,700	53,100	60,800
Pearlridge	3,800	10,600	14,400
Pearl Highlands, Leeward Community College	3,800	10,600	14,400
Waipahu, West Loch	3,800	10,600	14,400
Hoopili, UH West Oahu, East Kapolei	19,200	106,300	125,500
Total Corridor	**383,700**	**1,062,900**	**1,446,700**

Numbers may not sum due to rounding.
Source: Strategic Economics, 2019.

VI. INDUSTRIAL SPACE DEMAND AND DEVELOPMENT PROJECTIONS

Introduction

This chapter evaluates the market for development of industrial space—including warehousing, distribution, and manufacturing uses–in Honolulu's TOD station areas, in the context of broader development trends in Honolulu.

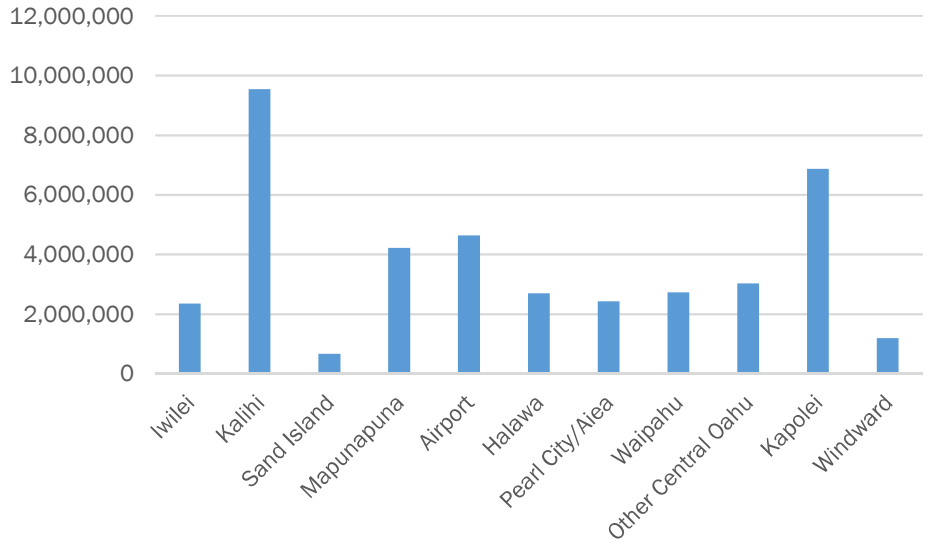
This chapter is organized in the following sections:

- **Industrial Real Estate Market Trends**: An overview of market trends and occupancy trends.
- **Opportunities and Constraints**: A summary of opportunities and challenges for development of industrial space in the station areas.
- **County and Corridor Industrial Demand:** A summary of Honolulu projections and the expected amount of demand that can be captured along the rail corridor.
- **Industrial Development Projections by Station Area Group:** A description of development projections for industrial space in each of the station area groups from 2018 to 2040.

Industrial Real Estate Market Trends

The corridor contains a high share of Honolulu's industrial space. Significant industrial inventory is found in the Iwilei, Kalihi, Mapunapuna, Airport, Waipahu submarkets (Figure 29). These submarkets account for over half of Honolulu's total industrial space.

FIGURE 29: INDUSTRIAL INVENTORY BY SUBMARKET



Note: Inventory includes industrial buildings greater than 2,500 square feet located on the island of Oahu, inclusive of owner-user, and single tenant buildings.
Source: Colliers International, Q2 2017 and Q2 2018.

Demand for industrial space is strong. As shown in Figure 30, vacancy rates for industrial space are low in Honolulu overall and across all industrial submarkets. Vacancy rates have never risen above five percent in the last decade, even during the most recent economic recession. Occupancy was driven higher in recent years partly due to the closure and subsequent modernization of the Kapalama Container Terminal, which displaced approximately 100 industrial tenants. This displacement generated additional demand for industrial space nearby. While rent growth was essentially flat from mid-2017 to mid-2018, several centrally-located submarkets experienced significant increases in average asking rents. The most significant increases occurred in the Airport, Mapunapuna, and Halawa areas.

FIGURE 30: INDUSTRIAL SPACE VACANCY RATE AND ASKING RENT BY SUBMARKET, Q2 2017 AND Q2 2018

	Vacancy Rate		Weighted Average Asking Rent**		
Submarket	2017-Q2	2018-Q2	2017-Q2	2018-Q2	% Change
Iwilei	3%	3%	$1.20	$1.29	8%
Kalihi	3%	2%	$1.29	$1.17	-9%
Sand Island	2%	0%	$1.36	$1.40	3%
Mapunapuna	0%	1%	$1.22	$1.41	16%
Airport	0%	1%	$0.85	$1.08	27%
Halawa	2%	2%	$1.13	$1.25	11%
Pearl City/Aiea	0%	2%	$1.37	$1.32	-3%
Waipahu	1%	2%	$1.11	$1.19	7%
Other Central Oahu*	0%	1%	$1.26	$1.26	0%
Kapolei	2%	3%	$1.17	$1.24	6%
Windward	4%	4%	$1.28	$1.35	5%
Honolulu Overall	**2%**	**2%**	**$1.24**	**$1.22**	**-2%**

*Includes Gentry Business Park, Bougainville, and Milltown submarkets.
**Weighted average rents are calculated on I-1 and I-2 zoned properties. IMX zoned properties, which can be used for retail, have been excluded from the rent calculation
Source: Colliers International, Q2 2017 and Q2 2018.

A wide variety of users occupy industrial space in urban Honolulu, though a high share of space is used for distribution and warehousing. Larger industrial spaces are typically occupied by wholesale warehouse and distribution uses, while smaller industrial spaces are typically occupied by businesses such as construction contractors and automobile repair businesses. Although some small-scale manufacturing and maker spaces exist (e.g., Oahu Makerspace, HICapacity, Manoa Innovation Center), they tend to occupy small warehouse spaces that are often shared with multiple organizations. Industrial spaces are sometimes converted to non-industrial uses such as big box retail stores or churches.

As development of industrial space in the densest and most desirable areas of Honolulu has become more challenging—especially in future TOD areas–development of warehouse and distribution space has accelerated in Kapolei. Given the high land costs and high value of competing uses in the most densely urbanized areas of Honolulu, new industrial expansion has largely occurred in the Kapolei area in recent years.

Opportunities and Constraints

Industrial properties are undergoing or are likely to undergo redevelopment in several TOD areas, especially as ground leases expire and at properties that cannot accommodate modern tenant needs. Despite the strong demand for industrial land, industrial users generally cannot compete with the higher attainable values from redevelopment for high-intensity residential and retail uses. Attainable lease rates for single-story industrial space are generally insufficient to support new industrial development in the urban core of Honolulu. This is especially true within TOD areas that allow conversion to residential uses generally or higher intensity uses that will concentrate activity near stations and support transit ridership. As a result, industrial lands are likely to gradually undergo redevelopment in existing industrial districts, particularly as ground leases expire. This process has begun in Kakaako, and pressure for conversion is likely to occur in locations near other future rail stations, including Kalihi/Kapalama and the Airport/Mapunapuna area. Furthermore, Honolulu's older warehouse and distribution inventory is often unable to meet modern needs, such as accommodating today's larger shipping containers.

Demand for industrial space is likely to continue growing in the future, but most new industrial space is likely to be developed in the Kapolei area and outside of TOD areas. DBEDT projections anticipate ongoing growth of employment in industry sectors requiring industrial land, including construction, wholesale trade, and transportation. While some intensification and reinvestment may occur in the centrally located industrial districts (e.g., Mapunapuna, Kakaako, Kalihi), much of the market-driven development activity is likely to occur outside of TOD areas.

The State of Hawaii has acknowledged that the preservation of affordable industrial space in Honolulu's urban core is critical for supporting job growth and meeting space demands of current and future industrial users. As discussed in the State's TOD Strategic Plan (2017), there are visions for multi-level industrial structures to support continued industrial uses on land owned by the Department of Hawaiian Home Lands (DHHL). DHHL has conceptual plans to redevelop approximately 14 acres in the Shafter Flats area (referred to as "Moanalua Kai") near the Middle Street station into multi-level industrial space with ground-floor parking for container trucks, as well as commercial spaces for dining and retail options to serve the area's workers. DHHL would like to be able to take advantage of TOD opportunities and address the significant need to retain industrial users in the area. However, the Shafter Flats project's future is uncertain due to concerns over sea level rise. To ensure compatibility between different land uses, any future development would need to take into consideration appropriate buffers and roadway configurations to address concerns around noise, pollution, safety, and traffic, other hazards.

County and Corridor Industrial Demand

Strategic Economics estimated short term and long term demand for additional warehouse, distribution, and manufacturing space at the county and corridor level. Demand was measured using a "top down" approach, in which the countywide pool of demand was measured, followed by the corridor's potential to capture this demand. This approach acknowledges that Honolulu will require additional industrial space, but only limited portions of the corridor are likely to capture this demand due to high costs and pressure for conversion to other uses. The countywide demand estimates were based on the most recent employment projections published by the State; these projections were translated into growth in demand based on the typical square feet of office space required per worker.

PROJECTED EMPLOYMENT GROWTH FOR INDUSTRY SECTORS ASSOCIATED WITH INDUSTRIAL LAND USES

In the State of Hawaii's most recent employment projections,[24] jobs in Honolulu's industry sectors associated with industrial land uses were expected to grow at an average rate of 0.6 percent annually to 2040, which is slightly lower than past trends. An analysis of DBEDT's total wage and salary employment between 1999 and 2017 showed that industrial-based jobs grew by 0.9 percent on average annually. Industry sectors associated with industrial land uses include jobs in construction, food processing, other manufacturing, transportation and warehousing, utilities, and wholesale trade.

In the short term (2018-2030), employment in these industry sectors is forecasted to grow on average by 0.8 percent annually. In the longer term (2030-2040), employment growth is expected to slow to an average annual growth rate of 0.3 percent. Figure 31 shows DBEDT's employment projections for these sectors.

FIGURE 31: INDUSTRIAL-BASED EMPLOYMENT GROWTH, 2018-2040

	2018*	2030	2040	Net Growth, 2018-2030	Net Growth, 2030-2040
Mining and construction	35,534	41,150	42,640	5,616	1,490
Food processing	5,613	5,690	5,760	77	70
Other manufacturing	8,827	8,890	8,900	63	10
Transportation & Warehousing	25,791	28,350	29,860	2,559	1,510
Utilities	3,022	3,560	3,800	538	240
Wholesale trade	18,520	18,910	18,960	390	50
Industrial-Based Employment	**97,307**	**106,550**	**109,920**	**9,243**	**3,370**
Average Annual Growth Rates					
2018-2030	0.8%				
2030-2040	0.3%				
2018-2040	0.6%				

*Actual 2018 figure was not available. To estimate 2018 employment, DBEDT's 2016-2040 annual growth rate was applied to 2016 estimates.
Numbers may not sum due to rounding.
Sources: DBEDT, 2018; Strategic Economics, 2019.

DEMAND FOR INDUSTRIAL SPACE

Strategic Economics estimated countywide demand for industrial space using the following assumptions, summarized in Figure 32:

1) The projections assume that not all work performed in each industrial-based job sector requires industrial space. For instance, jobs in construction and utilities often do not require substantial industrial or warehouse space since work is performed off-site.
2) The square feet of space required per employee is also assumed to vary by industry sector. Based on research of average employee densities of recent industrial product types built locally and nationally, warehousing and distribution tend to be more space-intensive than the manufacturing and production sectors.

[24] DBEDT. *2045 Series of DBEDT Population and Economic Projections*, June 2018.

FIGURE 32: ASSUMPTIONS FOR ESTIMATING COUNTYWIDE DEMAND FOR INDUSTRIAL SPACE

Share of jobs assumed to actually locate in industrial or warehouse space, by sector:	
Mining and construction	20%
Food processing	100%
Other manufacturing	100%
Transportation and warehousing	70%
Utilities	50%
Wholesale trade	90%
Industrial space demand per worker, by sector	
Mining and construction	500 sq. ft.
Food processing	500 sq. ft.
Other manufacturing	500 sq. ft.
Transportation and warehousing	1,000 sq. ft.
Utilities	500 sq. ft.
Wholesale trade	1,000 sq. ft.

Source: Strategic Economics, 2019.

CORRIDOR CAPTURE RATES AND TOD GROWTH SCENARIOS

Strategic Economics estimated corridor capture rates for the two time periods (2018-2030 and 2030-2040) as a range of low to high, as shown in Figure 33. The low and high scenarios represent a range of assumptions about the share of countywide industrial growth that will be captured along the TOD corridor.

In the short term (2018-2030), the corridor is assumed to capture a limited amount of Honolulu's industrial growth. The analysis assumed that between six and eight percent of growth in demand for warehouse, distribution, and manufacturing space would be captured in the rail corridor station areas. This is primarily based on the presumption that most new industrial space will continue to occur outside the TOD corridor. As mentioned previously, there are future plans to create higher-intensity, mixed-use districts in Kakaako, Iwilei, Kapalama, and Kalihi which are likely to result in redevelopment and replacement of industrial space. However, these losses may be partially offset by DHHL's conceptual plans to redevelop their land in the Shafter Flats area (also known as Moanalua Kai), located within a short distance of the Middle Street, into multi-level industrial space in order to address the significant need for retaining industrial businesses in the area. Concerns over sea level rise will impact whether and how development in Shafter Flats moves forward. Up to 800,000 square feet of potential light industrial space is also included in the Hoopili Master Plan, with a portion of this space located within the half-mile radius of the Hoopili station.

In the longer term (2030-2040), both scenarios assume modest net growth of industrial space within the TOD areas. Once transit service has been running for a few years and major infrastructure projects are completed (i.e., additional sewer pump stations, drainage, new roads, etc.), properties within the TOD corridor are assumed to primarily undergo conversion into higher-intensity land uses, such as housing, hotel, and offices. Developers may still construct a minimal amount of warehouse, distribution, and manufacturing space in the TOD station areas, potentially in new higher-intensity formats such as multi-story buildings.

FIGURE 33: CORRIDOR CAPTURE RATES OF GROWTH IN HONOLULU'S INDUSTRIAL SPACE DEMAND, BY SCENARIO AND TIME PERIOD

	2018-2030	2030-2040
Low Scenario	6%	3%
High Scenario	8%	5%

Source: Strategic Economics, 2019.

Industrial Development Projections by Station Area Group

Industrial space development projections by station area group were developed for the short term (2018-2030) based on existing industrial concentrations, locations in which smaller-scale industrial development is most likely to occur, and the potential completion of DHHL's Shafter Flats project. Figure 34 shows the allocation of TOD industrial growth by station area group. The allocation of TOD growth by station area group remains the same in the two scenarios.

FIGURE 34: ALLOCATION OF TOD INDUSTRIAL GROWTH BY STATION AREA GROUP (LOW AND HIGH SCENARIOS)*

Station Area Group	2018-2030	2030-2040
Ala Moana- Kakaako-Civic Center	0%	0%
Downtown-Chinatown	0%	0%
Iwilei- Kapalama-Kalihi-Middle Street	15%	15%
Airport-Lagoon Drive	22%	22%
Pearl Harbor-Aloha Stadium	5%	5%
Pearlridge	1%	1%
Pearl Highlands-Leeward Community College	2%	2%
Waipahu-West Loch	5%	5%
Hoopili-UH West Oahu-East Kapolei	50%	50%
Total Corridor	**100%**	**100%**

*Assumes no differences in allocation by station area group between the low and high scenarios.
Source: Strategic Economics, 2019

FIGURE 35: LOW SCENARIO: PROJECTED NEW INDUSTRIAL SPACE (SQUARE FEET) BY STATION AREA GROUP

Station Area Group	2018-2030	2030-2040	Total
Ala Moana- Kakaako-Civic Center	0	0	0
Downtown-Chinatown	0	0	0
Iwilei- Kapalama-Kalihi-Middle Street	26,700	6,200	32,900
Airport-Lagoon Drive	39,200	9,100	48,300
Pearl Harbor-Aloha Stadium	8,900	2,100	11,000
Pearlridge	1,800	400	2,200
Pearl Highlands-Leeward Community College	3,600	800	4,400
Waipahu-West Loch	8,900	2,100	11,000
Hoopili-UH West Oahu-East Kapolei	89,000	20,700	109,700
Total Corridor	**178,100**	**41,400**	**219,400**

Industrial space includes warehouse, distribution, and manufacturing space. Numbers may not sum due to rounding.
Source: Strategic Economics, 2019.

FIGURE 36: HIGH SCENARIO: PROJECTED NEW INDUSTRIAL SPACE (SQUARE FEET) BY STATION AREA GROUP

Station Area Group	2018-2030	2030-2040	Total
Ala Moana- Kakaako-Civic Center	0	0	0
Downtown-Chinatown	0	0	0
Iwilei- Kapalama-Kalihi-Middle Street	35,600	10,300	45,900
Airport-Lagoon Drive	52,200	15,200	67,400
Pearl Harbor-Aloha Stadium	11,900	3,400	15,300
Pearlridge	2,400	700	3,100
Pearl Highlands-Leeward Community College	4,700	1,400	6,100
Waipahu-West Loch	11,900	3,400	15,300
Hoopili-UH West Oahu-East Kapolei	118,700	34,500	153,200
Total Corridor	**237,400**	**68,900**	**306,400**

Industrial space includes warehouse, distribution, and manufacturing space. Numbers may not sum due to rounding.
Source: Strategic Economics, 2019.

VI. RETAIL SPACE DEMAND AND DEVELOPMENT PROJECTIONS

Introduction

This chapter projects future demand for retail development in Honolulu's TOD station areas, based on projected increases in visitor and resident spending.

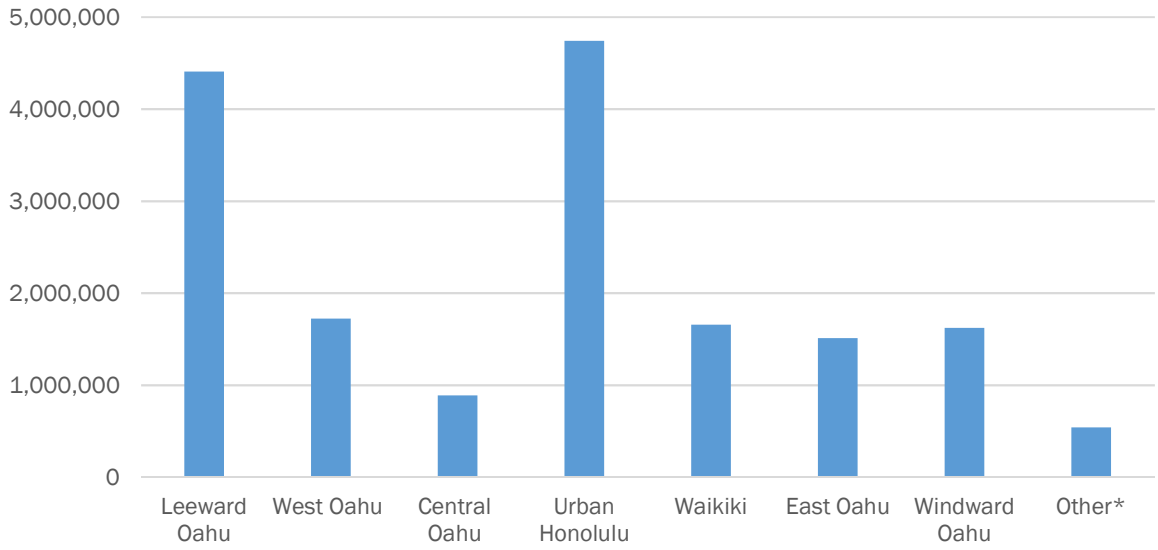
This chapter is organized in the following sections:

- **Retail Real Estate Market Trends**: An overview of market trends and absorption of space.
- **Opportunities and Constraints**: A summary of opportunities and challenges for retail development in the station areas.
- **Retail Demand Analysis:** A summary of projections for Honolulu, translation to expected demand generated by projected increases and households and visitors, and the expected amount of demand that can be captured along the rail corridor.
- **Retail Demand Projections by Station Area Group**: Projected retail demand for each of the station area groups from 2018 to 2040.

Retail Real Estate Market Trends

A significant concentration of Honolulu's retail inventory is focused in Honolulu's TOD station areas. As shown in Figure 37, the Urban Honolulu submarket contains the largest retail inventory. This includes major regional shopping centers Ala Moana Center and Pearlridge Center, while other areas such as Kalihi/Palama, Salt Lake, Pearl Highlands, and Waipahu feature community shopping centers. A number of neighborhood shopping centers also exist, as well as retail spaces spread along corridors such as Kamehameha Highway. Concentrations of small-scale, pedestrian-oriented retail spaces exist in Downtown, including Fort Street Mall and Chinatown. The new Ka Makana Alii regional mall is also near the East Kapolei station, though outside the half-mile area around the station.

FIGURE 37: RETAIL INVENTORY BY SUBMARKET (IN SQUARE FEET), 2018



Note: Inventory includes rentable square footage in shopping centers greater than 20,000 square feet.
*Other includes North Shore and Waianae.
Source: Colliers, Q2 2018.

Honolulu's retail real estate market is characterized by relatively low vacancy rates, strong rent growth, and healthy absorption. At mid-year 2018, Honolulu's vacancy rate decreased to six percent from eight percent in 2017 (Figure 38). Monthly asking base rents also continue to increase, rising to a high of $4.11 per square foot.[25] Between 2012 and 2017, Honolulu's average annual absorption exceeded 250,000 square feet annually over the last five years.

FIGURE 38: RETAIL VACANCY RATE AND ASKING RENT BY SUBMARKET

	Vacancy Rate		Average Asking Rent*		
	2017-Q2 %	2018-Q2 %	2017-Q2 Per SQFT	2018-Q2 Per SQFT	% Change
North Shore	1%	2%	$3.69	$3.66	-1%
Waianae	19%	11%	$2.17	$2.42	11%
Leeward Oahu	7%	11%	$3.71	$3.69	-1%
West Oahu	13%	5%	$4.15	$4.56	10%
Central Oahu	2%	3%	$4.07	$4.11	1%
Urban Honolulu	8%	4%	$3.95	$4.12	4%
Waikiki	14%	9%	$14.70	$14.23	-3%
East Oahu	2%	2%	$5.38	$5.64	5%
Windward Oahu	4%	4%	$3.89	$3.82	-2%
Oahu Total	**8%**	**6%**	**$4.03**	**$4.11**	**2%**

*Average of low and high asking rents for triple net leases, in which tenants are responsible for taxes, insurance, and maintenance costs. Average rent calculations exclude Waikiki and Ala Moana Center.

Source: Colliers International, Q2 2017 and Q2 2018.

[25] Colliers, Oahu Retail Market, Second Quarter 2018.

Several of Honolulu's largest retail centers located along the rail corridor are undergoing the most significant reinvestment, redevelopment, and expansion activity in decades. Ala Moana Center recently completed an addition of roughly 650,000 square feet of space in its new Ewa wing, and is undergoing reconfiguration and re-tenanting of its anchor spaces. Pearlridge Center is completing a $33 million renovation to modernize its property as well as add several new dining options. The Ward Warehouse center in Kakaako has been demolished, but will be replaced as part of the larger Ward Village Master Plan and Central Plaza redevelopment. The Ward Entertainment Center and South Shore Market have already opened.

Upgrades and changes to existing shopping centers include ongoing repositioning in response to national and local trends favoring "experiential" retail, dining, and drinking. Older retail centers across the United States are being impacted by the loss of traditional retail sales to online shopping, and by changing expectations of a unique, high-quality environment that offers diverse options for dining and entertainment in addition to shopping. The changes being made to the rail corridor's retail centers reflect these shifts, with a greater emphasis on food sales, dining, drinking, entertainment, local businesses, high-quality public space, and better-quality stores. For example, SALT at Our Kakaako and South Shore Market shopping centers emphasize public space and feature a tenant mix focused on food, drinks, and local businesses. Ala Moana Center's new Bloomingdale's store serves as an upscale anchor, and Ala Moana Center features an enhanced emphasis on food with the opening of Shirokiya Japan Village Walk and Foodland Farms. Pearlridge Center has replaced inward-facing retail stores with outward-facing restaurants.

Kapolei continues to be the hub of development of new retail centers to serve nearby population growth, including two new shopping centers near the future East Kapolei transit station. New regional center Ka Makana Alii recently completed its first phase, which features more than 100 stores, restaurants, a movie theater, and hotel. Directly across the street at the corner of Kualakai Parkway and Kapolei Parkway is Ho'omaka Marketplace, a new community shopping center anchored by Long's Drugs. Further west, more retail stores are being added to Kapolei Commons. As noted earlier, these retail centers are located near the East Kapolei station, though largely outside the half-mile station area.

Opportunities and Constraints

Future residential development in the TOD station areas will generate additional local demand for neighborhood-serving retail. As described earlier, the TOD station areas around future rail stations could capture growth of over 33,000 additional housing units by 2040. The buildout of these units over time will create demand for local neighborhood-serving retail in these areas. For example, the completion of master planned development in Hoopili, as well as the UH-West Oahu campus, will drive growth of retail development.

Retail in station areas located near major tourism destinations will also benefit from growth in visitor spending. Although the rail corridor does not reach Waikiki, the Ala Moana, Kakaako, and Civic Center stations already benefit from visitor spending due to the presence of Hawaii's largest shopping mall at Ala Moana, and these stations' general proximity to Waikiki and other visitor destinations. Any future retail development at the Aloha Stadium property could also potentially benefit from proximity to Pearl Harbor Historic Sites.

Since most of the TOD areas are already served by existing retail centers, development will likely be limited to reinvestment and redevelopment activity, with total inventory rising incrementally in

response to growth in households and tourism. As mentioned previously, the retail mix is likely to continue its reorientation toward food, dining, drinking, local goods, and entertainment uses as traditional retail sales move online.

Retail Demand Analysis

Strategic Economics estimated growth in retail demand from households and visitors. Details about the methodology used to estimate demand from each group are provided below.

DEMAND FROM HOUSEHOLDS

The estimate of demand associated with household growth was based on DBEDT's projected growth in Honolulu households from 2018 to 2030, and from 2030 to 2040. These growth projections match those used in the housing demand estimate shown in Figure 2 of this report's housing demand analysis.

A series of assumptions were used to estimate the square feet of retail demand associated with each new household. Total spending associated with new households was calculated by multiplying household growth by average annual household expenditure estimates for Honolulu published by the U.S. Bureau of Labor Statistics. As shown in Figure 39, the analysis focused on five categories of retail that are most likely to grow within TOD areas, rather than including uses such as automobile dealerships and service stations. The household expenditures were reduced to account for the share of sales in these categories that occur online rather than at physical stores.[26] The remaining household expenditures were then divided by typical annual sales per square foot of retail space (by type of retail) to calculate square feet of additional retail demand associated with each new household. Since the rail corridor is already well-served by retail space, the square feet of retail demand per household was then reduced by 20 percent to account for spending accommodated by existing retail space.

FIGURE 39: AVERAGE ANNUAL HOUSEHOLD EXPENDITURES AND ADJUSTED ANNUAL SQUARE FEET OF RETAIL DEMAND PER HOUSEHOLD IN HONOLULU

TOD Retail Categories	Avg. Annual Household Expenditures	Adjustment for Sales Occurring Online*	Avg. Annual Sales Per Sq. Ft. of Retail Space	Adjusted Sq. Ft. of Retail Demand per Household**
Food and Beverage Stores	$5,819	-4%	$300	16
Eating and Drinking Places	$4,875	0%	$600	7
General Merchandise	$793	-40%	$300	1
Drug Stores and Personal Care	$4,682	-11%	$215	16
Apparel and Services	$1,667	-20%	$350	3
Total	**$17,836**			**43**

**Adjustment assumption for share of average annual household expenditures that occur online.
**Incorporates 20% reduction in demand to account for absorption by existing space, plus an increase to incorporate a 5% stabilized vacancy rate.
Source: U.S. Bureau of Labor Statistics Consumer Expenditure Survey for Honolulu County, 2016-2017; Forrester Research, 2018; CBRE, 2018; Strategic Economics, 2019.

[26] The online sales adjustments are based partly on the CBRE and Forrester Research data described in "How Does E-Commerce Vary by Category," available at http://www.cbre.us/real-estate-services/real-estate-industries/omnichannel/the-definitive-guide-to-omnichannel-real-estate/by-the-numbers/how-does-e-commerce-vary-by-category.

Based on household growth and estimated retail space demand per household, demand for additional retail space in Honolulu overall will grow by approximately 1.5 million square feet between 2018 and 2030, and nearly 960,000 square feet between 2030 and 2040, as shown in Figure 40.

Strategic Economics assumed that the capture of countywide retail demand in the rail corridor station areas will match the capture rates of household growth applied in the housing demand analysis. This approach assumes that household retail demand largely "follows" the households themselves, serving households locally in the station areas and more generally. The capture rate is presented as a range from low to high, matching the rates applied in the housing demand analysis.

FIGURE 40: RETAIL DEMAND GENERATED BY HOUSEHOLD GROWTH, AND CORRIDOR CAPTURE OF DEMAND (SQUARE FEET)

	New Demand (Sq. Ft.)		
	2018-2030	2030-2040	Total
Islandwide Retail Demand by Category (Sq. Ft.)			
Food and Beverage Stores	525,300	346,500	871,800
Eating and Drinking Places	229,200	151,200	380,400
General Merchandise	44,700	29,500	74,300
Drug Stores and Personal Care	546,800	360,700	907,500
Apparel and Services	107,500	70,900	178,400
Retail Demand (Sq. Ft.)	1,453,500	958,900	2,412,400
Capture of Retail Demand			
Low Scenario Corridor Capture Rate Assumption	60%	65%	
High Scenario Corridor Capture Rate Assumption	65%	70%	
Low Scenario Corridor Retail Demand Growth (Sq. Ft.)	872,100	623,300	1,495,400
High Scenario Corridor Retail Demand Growth (Sq. Ft.)	944,800	671,200	1,616,000

Source: Strategic Economics, 2019.

VISITOR GROWTH, SPENDING, AND DEMAND

The visitor-driven retail demand estimate was based on DBEDT projections of increases in visitor days in Honolulu (for visitors arriving by air) as the base for projecting increased visitor spending and retail demand. As of DBEDT's 2045 Long Range Forecasts dated July 2018, visitor air arrivals were estimated to increase from 38.3 million in 2017[27] to 42.5 million in 2030 and 44.3 million in 2040.[28]

Similar to the household retail demand analysis, daily spending per visitor was multiplied by projected growth in visitor days to arrive at growth in spending, which was then divided by spending per square foot of retail space to estimate square feet of retail demand per visitor day. Estimates of visitor daily spending by category were obtained from the Hawaii Tourism Authority (HTA) "2017 Annual Visitor Research Report." Strategic Economics applied a series of assumptions to further disaggregate the HTA visitor spending categories into relevant categories for the demand analysis. Spending per visitor day was then translated into square feet of demand per visitor day using the same assumptions as in the household retail demand analysis.

[27] 2017 data is based on the actual estimate included in the Hawaii Tourism Authority's 2017 Annual Visitor Research Report. This 2017 estimate was also used as the 2018 base year count of visitor days for the visitor-driven retail demand estimate.
[28] State of Hawaii DBEDT, "Population and Economic Projections for the State of Hawaii to 2045," June 2018.

FIGURE 41: AVERAGE EXPENDITURES PER VISITOR DAY IN HONOLULU, AND CALCULATION OF ADJUSTED SQUARE FEET OF ADDITIONAL RETAIL DEMAND GENERATED PER ADDITIONAL VISITOR DAY SPENDING

	Expenditure per Visitor Day*	Annual Sales Per. Sq. Ft.	Sq. Ft. of Additional Retail Demand per Additional Visitor Day	Adjusted Sq. Ft. of Retail Demand per Additional Visitor Day**
Food and Beverage Stores	$8	$300	0.025	0.021
Eating and Drinking Places	$30	$600	0.051	0.043
General Merchandise	$15	$300	0.050	0.042
Drug Store and Personal Care	$7	$215	0.031	0.026
Apparel and Services	$12	$350	0.033	0.028
Total	**$71**		**0.189**	**0.159**

*Based on daily visitor spending data from the Hawaii Tourism Authority, with adjustments to categories.
**Incorporates 20% reduction in demand to account for absorption by existing space, plus an increase to incorporate a 5% stabilized vacancy rate.
Source: Hawaii Tourism Authority, 2017; Strategic Economics, 2019.

Demand for additional retail space in Honolulu driven by visitor demand is projected to grow by approximately 650,000 square feet between 2018 and 2030, and 288,000 square feet between 2030 and 2040, as shown in Figure 42.

The selected rail corridor capture rates of visitor-driven countywide growth in retail demand reflect current distribution of related employment and the station areas' locations relative to major visitor destinations in Honolulu. The capture rates in the low and high scenarios--shown below—were selected partly in consideration of the rail corridor station areas' 22 percent share of all accommodation and food services employment in Honolulu. The corridor station areas do not cover Waikiki, Honolulu's most significant visitor spending destinations, although they do include visitors shopping at Ala Moana Center. The retail demand capture rates were assumed to increase over time as the rail corridor attracts additional development to station areas and the rail service is more widely used by visitors.

FIGURE 42: RETAIL DEMAND GENERATED BY VISITOR GROWTH, AND CORRIDOR CAPTURE OF DEMAND (SQUARE FEET)

	New Demand (Sq. Ft.)		
	2018-2030	2030-2040	Total
Additional Annual Visitor Days (Air Arrivals)	4,084,200	1,805,400	5,889,600
Countywide Retail Demand by Category (Sq. Ft.)			
Food and Beverage Stores	87,100	38,500	125,600
Eating and Drinking Places	174,300	77,000	251,300
General Merchandise	170,200	75,300	245,500
Drug Stores and Personal Care	105,600	46,700	152,300
Apparel and Services	113,500	50,200	163,700
Total Retail Demand (Sq. Ft.)	650,700	287,700	938,400
Capture of Retail Demand			
Low Scenario Corridor Capture Rate Assumption	15%	20%	
High Scenario Corridor Capture Rate Assumption	20%	25%	
Low Scenario Corridor Retail Demand Growth (Sq. Ft.)	97,600	57,500	155,100
High Scenario Corridor Retail Demand Growth (Sq. Ft.)	130,100	71,900	202,100

Source: Strategic Economics, 2019.

Retail Development Projections by Station Group

Household-driven retail demand and development projections were allocated to station groups based primarily on projected residential development, with adjustments for known major projects. Retail growth allocated to the station groups was similar to the projected growth of housing units by station group described in the housing chapter of this report. The allocations incorporate additional adjustments for current development of shopping centers at the Hoopili, UH West Oahu, East Kapolei station group. The allocation also incorporates long term development of 200,000 square feet of retail space included in the "Live Work Play Aiea" redevelopment of the Kamehameha Drive In Theater site near the Pearlridge station. Figure 43 shows the allocation of household-driven retail growth by station area group, and Figure 44 shows the corresponding square feet of projected household-driven retail development by station area group.

FIGURE 43: ALLOCATION OF RETAIL GROWTH BY STATION AREA GROUP, FOR HOUSEHOLD-GENERATED DEMAND

	Low Scenario		High Scenario	
	2018-2030	2030-2040	2018-2030	2030-2040
TOD Capture Rate				
Ala Moana, Kakaako, Civic Center	15%	6%	17%	6%
Downtown, Chinatown	1%	2%	1%	2%
Iwilei, Kapalama, Kalihi, Middle Street	8%	40%	10%	40%
Airport, Lagoon Drive	0%	0%	0%	0%
Pearl Harbor, Aloha Stadium	7%	15%	7%	15%
Pearlridge	1%	23%	1%	23%
Pearl Highlands, Leeward Community College	2%	2%	2%	2%
Waipahu, West Loch	2%	2%	3%	2%
Hoopili, UH West Oahu, East Kapolei	64%	10%	59%	10%
Total Corridor	**100%**	**100%**	**100%**	**100%**

Source: Strategic Economics, 2019.

FIGURE 44: PROJECTED RETAIL DEVELOPMENT BY STATION AREA GROUP, FOR HOUSEHOLD-GENERATED DEMAND (SQUARE FEET)

	Low Scenario			High Scenario		
	2018-2030	2030-2040	Total	2018-2030	2030-2040	Total
TOD Capture Rate						
Ala Moana, Kakaako, Civic Center	130,800	37,400	168,200	160,600	40,300	200,900
Downtown, Chinatown	8,700	12,500	21,200	9,400	13,400	22,900
Iwilei, Kapalama, Kalihi, Middle Street	69,800	249,300	319,100	94,500	268,500	363,000
Airport, Lagoon Drive	0	0	0	0	0	0
Pearl Harbor, Aloha Stadium	61,000	93,500	154,500	66,100	100,700	166,800
Pearlridge	8,700	143,400	152,100	9,400	154,400	163,800
Pearl Highlands, Leeward Community College	17,400	12,500	29,900	18,900	13,400	32,300
Waipahu, West Loch	17,400	12,500	29,900	28,300	13,400	41,800
Hoopili, UH West Oahu, East Kapolei*	7,600	62,300	69,900	6,800	67,100	73,900
Total Corridor	321,500	623,300	944,800	394,200	671,200	1,065,400

*The projections net out 550,593 square feet of space currently under construction near this station area group.
Source: Strategic Economics, 2019.

Visitor-driven retail demand and development projections were allocated to station groups based primarily on the current locations of visitor spending. Visitor spending was assumed to focus in the Ala Moana-Kakaako-Civic Center station group since this area includes Ala Moana Center, other shopping options, and is located adjacent to Waikiki. Over time, however, the allocations assume greater diversity of the locations in which visitors spend as other retail clusters emerge and use of the rail system becomes more common. The allocations also incorporate planned redevelopment of the Aloha Stadium site.

Figure 45 shows the allocation of visitor-driven retail growth by station area group, and Figure 46 shows the corresponding square feet of projected visitor-driven retail development by station area group. Figure 47 shows the combined household-driven and visitor-driven growth in retail space by station area group.

FIGURE 45: ALLOCATION OF RETAIL GROWTH BY STATION AREA GROUP, FOR VISITOR-GENERATED DEMAND

	Low Scenario		High Scenario	
	2018-2030	2030-2040	2018-2030	2030-2040
TOD Capture Rate				
Ala Moana, Kakaako, Civic Center	63%	52%	63%	52%
Downtown, Chinatown	7%	10%	7%	10%
Iwilei, Kapalama, Kalihi, Middle Street	0%	0%	0%	0%
Airport, Lagoon Drive	2%	5%	2%	5%
Pearl Harbor, Aloha Stadium	22%	25%	22%	25%
Pearlridge	1%	3%	1%	3%
Pearl Highlands, Leeward Community College	0%	0%	0%	0%
Waipahu, West Loch	0%	0%	0%	0%
Hoopili, UH West Oahu, East Kapolei	5%	5%	5%	5%
Total Corridor	**100%**	**100%**	**100%**	**100%**

Source: Strategic Economics, 2019.

FIGURE 46: PROJECTED RETAIL DEVELOPMENT BY STATION AREA GROUP, FOR VISITOR-GENERATED DEMAND (SQUARE FEET)

	Low Scenario			High Scenario		
	2018-2030	2030-2040	Total	2018-2030	2030-2040	Total
TOD Capture Rate						
Ala Moana, Kakaako, Civic Center	61,500	29,900	91,400	82,000	37,400	119,400
Downtown, Chinatown	6,800	5,800	12,600	9,100	7,200	16,300
Iwilei, Kapalama, Kalihi, Middle Street	0	0	0	0	0	0
Airport, Lagoon Drive	2,000	2,900	4,800	2,600	3,600	6,200
Pearl Harbor, Aloha Stadium	21,500	14,400	35,900	28,600	18,000	46,600
Pearlridge	1,000	1,700	2,700	1,300	2,200	3,500
Pearl Highlands, Leeward Community College	0	0	0	0	0	0
Waipahu, West Loch	0	0	0	0	0	0
Hoopili, UH West Oahu, East Kapolei	4,900	2,900	7,800	6,500	3,600	10,100
Total Corridor	97,600	57,500	155,100	130,100	71,900	202,100

Source: Strategic Economics, 2019.

FIGURE 47: PROJECTED RETAIL SPACE BY STATION AREA GROUP, ALL DEMAND (HOUSEHOLD- AND VISITOR-GENERATED) (SQUARE FEET)

	Low Scenario			High Scenario		
	2018-2030	2030-2040	Total	2018-2030	2030-2040	Total
TOD Capture Rate						
Ala Moana, Kakaako, Civic Center	192,300	67,300	259,600	242,600	77,700	320,300
Downtown, Chinatown	15,600	18,200	33,800	18,600	20,600	39,200
Iwilei, Kapalama, Kalihi, Middle Street	69,800	249,300	319,100	94,500	268,500	363,000
Airport, Lagoon Drive	2,000	2,900	4,800	2,600	3,600	6,200
Pearl Harbor, Aloha Stadium	82,500	107,900	190,400	94,800	118,700	213,400
Pearlridge	9,700	145,100	154,800	10,700	156,500	167,300
Pearl Highlands, Leeward Community College	17,400	12,500	29,900	18,900	13,400	32,300
Waipahu, West Loch	17,400	12,500	29,900	28,300	13,400	41,800
Hoopili, UH West Oahu, East Kapolei*	12,400	65,200	77,600	13,300	70,700	84,000
Total Corridor	419,100	680,800	1,099,900	524,300	743,100	1,267,500

*The projections net out 550,593 square feet of space currently under construction in this station area group.
Source: Strategic Economics, 2019.

VII. HOTEL DEMAND AND DEVELOPMENT PROJECTIONS

Introduction

This chapter evaluates the market for hotel development in Honolulu's TOD station areas. A draft of this chapter was originally delivered as a standalone memo to DPP. This revised version incorporates edits in response to comments by DPP staff.

This chapter is organized in the following sections:

- **Existing Hotel Supply**: A description of Honolulu's existing supply of hotels.
- **Hotel Performance**: A description of Honolulu's hotel market performance, including a discussion of recent trends in visitor origins and growth in visitation
- **Vacation Rental Trends and Impacts on Hotels:** A discussion of trends in vacation rental unit growth and the likely impact of these units on hotel performance.
- **Hotel Development Trends:** A summary of recent and planned/proposed hotel development projects.
- **Hotel Demand Projections:** Projected hotel room demand for each of the station area groups from 2018 to 2040.

Existing Hotel Supply

This section describes Honolulu's existing supply of hotels, including types of accommodations and major hotel locations.

Honolulu's visitor inventory is comprised mainly of four property types: hotels, condo-hotels, timeshares, and vacation rentals. According to the 2017 "Visitor Plant Inventory" (VPI) tracked by the Hawaii Tourism Authority (HTA), hotel units make up the overwhelming majority of total visitor units (70%), followed by condominium hotel units (11%), timeshare units (9%), and vacation rental units (8%), as shown in Figure 48. Since this memo includes a projection of future demand for hotel uses, it is important to understand the full range of visitor accommodations available, and how they might impact demand for future hotel uses. The HTA defines the different accommodation types as follows:

- **Hotel**: A multi-unit lodging facility that provides room accommodations on a short term rental basis. Services often include a pool, restaurant operations, and other "away from home" services such as daily housekeeping service and front desk operations.
- **Condominium Hotel (Condo-hotel):** A multi-unit property legally classified as a condominium with each unit individually deeded. Generally, units are collectively placed into transient hotel rental operations when the units are not being used by their owners available for transient use on a short term rental basis (30 days or less). Condo-hotels offer most of the services of a hotel, such as daily housekeeping service and front desk operations. Units also tend to be larger than traditional hotel rooms, including studios and one- to three-bedroom units with kitchen and laundry facilities.

- **Timeshare:** A timeshare is a type of property ownership in which guests acquire a shared interest in a hotel or condominium hotel unit for a specific period of time and on a recurring basis. Timeshare ownership is typically defined by intervals (a set number of days and nights of annual use) or points (a "currency" that represents ownership and is used to establish value for seasons, unit sizes, and resort locations). "Operated" timeshare units are those that have been sold and are currently available for visitor use.
- **Vacation Rental Units:** An individual vacation rental unit available for visitor use on a short term basis (30 days or less), including both single-family detached and multifamily dwelling units. Vacation rentals usually include kitchens, laundry facilities, and parking garages. Services are very limited although some may include housekeeping service. Popular platforms for marketing vacation rental units include Airbnb, VRBO, and HomeAway.

There were approximately 29,900 hotel rooms in Honolulu in 2018. According to 2018 data from hospitality research company Smith Travel Research (STR), Honolulu had 93 hotel properties with 29,914 rooms as September 2018. This figure is slightly higher than what is reported in the Hawaii Tourism Authority's 2017 Visitor Plant Inventory (VPI), which estimates 27,100 hotel rooms.[29]

Honolulu experienced its greatest period of growth in hotel inventory during the 1970s and 1980s, with little hotel construction occurring in the 1990s and 2000s. Nearly half of Honolulu's existing hotel inventory was added in the 1970s and 1980s. However, as shown in Figure 49, hotel construction slowed dramatically from the 1990s through the 2000s. There were virtually no new openings in the mid-1990s, a period in which overall visitor arrivals fell below prior levels, and an economic recession in Japan reduced both Japanese visitation and investment in development projects in Hawaii.

Additions to inventory and major renovations and repositioning of properties have increased significantly since 2009 due to significant growth in visitor arrivals to Honolulu. Hotel development in Honolulu is correlated with periods of greater numbers of visitor arrivals, which are in turn correlated to stronger domestic and global market conditions. As shown in Figure 50, annual visitor air arrivals to Honolulu remained below their 1990 levels until 2015, and few hotel rooms were added from 1992 to 2008 (Figure 49).[30] Significant growth in air arrivals since the 2007-2009 recession is now spurring significant hotel development interest. Nine new or significantly renovated and rebranded hotels opened since 2010, representing eight percent of Honolulu's hotel room supply.

Waikiki is the primary hotel market in Honolulu, with only a relatively small share of hotel inventory located near the Honolulu International Airport, Aiea, and western Oahu, as shown in Figure 51. Waikiki accounts for the vast majority of Honolulu's hotel supply, comprising about 85 percent of all rooms (Figure 52). The Airport area has about four percent of Honolulu's total hotel inventory and primarily consists of budget and economy hotels serving business travelers and military personnel requiring short term lodging. Ala Moana's hotel inventory includes one independently-owned budget hotel (200 rooms) and a large condo-hotel (1,044 units) (see later sections of this memo for more detailed discussion of development trends in Ala Moana). Other areas, representing Kahala, Windward, North

[29] The difference in figures may be due to STR's inclusion of some condo-hotel units in its hotel inventory. HTA's Visitor Plant Inventory separates out condo-hotel properties from traditional hotels. The 2017 VPI estimates 4,246 condo-hotel units in Oahu.

[30] The "open date" data for hotels in Oahu is based on STR Global data. However, this data may not perfectly correspond to delivery of additional hotel room inventory since STR Global sometimes assigns a new opening date for hotels that undergo major rebranding and reinvestment.

Shore, and Laie account for five percent of total inventory. This includes recently built full service resorts concentrated through explicit planning policy at the Ko Olina area.

Most concentrations of hotels in Honolulu are located away from future rail stations. There are only nine existing hotels located within a half mile radius of a planned station. These hotels tend to be older budget and economy hotels built before 1990. One new hotel, a Hampton Inn and Suites, is located within a half mile of the planned East Kapolei station.

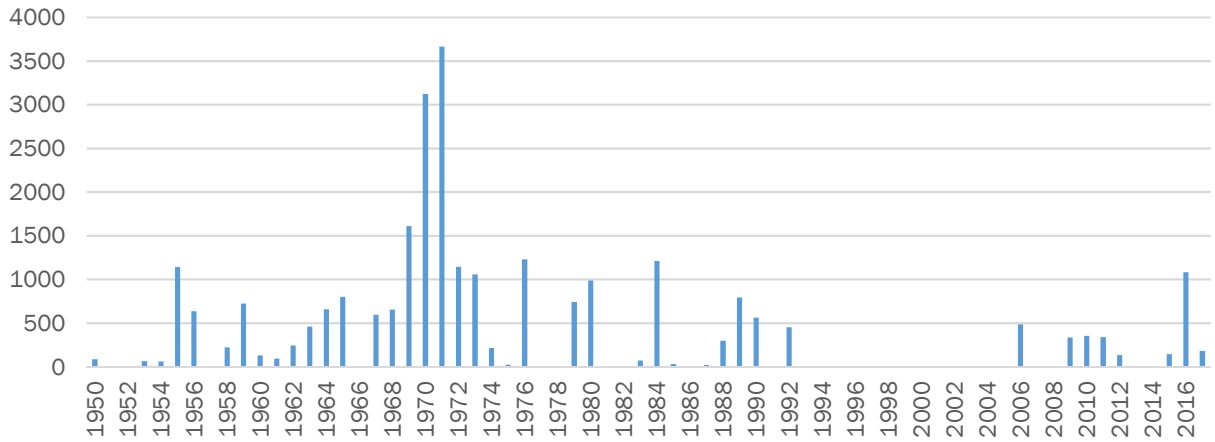
Honolulu's hotel inventory serves diverse market segments.[31] As shown in Figure 53, upscale hotels account for 34 percent of total hotel rooms, followed by midprice hotels (25%), economy hotels (19%), budget hotels (14%), and luxury hotels (8%). As shown on a map in Figure 51, most upscale and luxury hotels are concentrated in beachfront locations in Waikiki, though a few comparable resorts are located in Turtle Bay and Kahala. In general, relatively affordable hotel options are found near the Airport, Aiea, and Kapolei. Waikiki also offers several budget and economy hotels, which are typically smaller and older properties.

FIGURE 48: VISITOR PLANT INVENTORY, HONOLULU, 2017

	Units	% of Total
Hotel	27,306	70%
Condo Hotel	4,242	11%
Timeshare	3,731	10%
VRU	3,221	8%
Hostels	267	1%
Other	225	1%
Apt/Hotel	50	0%
B&B	47	0%
Total	**39,089**	**100%**

Source: Hawaii Tourism Authority, Visitor Plant Inventory, 2017. Figure 21.

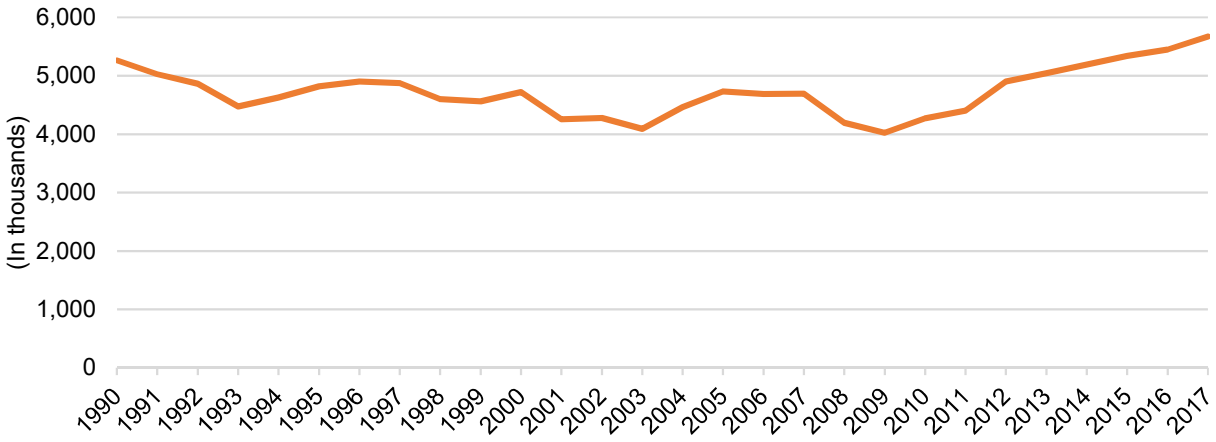
FIGURE 49: HOTEL ROOMS OPENED BY YEAR, HONOLULU, 1950-2017



Source: STR Global, Oahu Census, 2018.

[31] Note: STR defines luxury hotels as those with an average daily rate at or above the 85th percentile for the metropolitan region; upscale hotels are those between 70-85th average daily rate percentile; midprice hotels are in the 40-70th percentile; economy hotels are in the 20-40th percentile, and budget hotels are in the 0-20th percentile.

FIGURE 50: VISITOR ARRIVALS BY AIR, HONOLULU, 1990-2017



Source: DBEDT, HTA, 2018. Strategic Economics, 2018.

FIGURE 51: EXISTING HOTEL PROPERTIES BY TYPE, SOUTH SHORE

Existing Hotels by Type

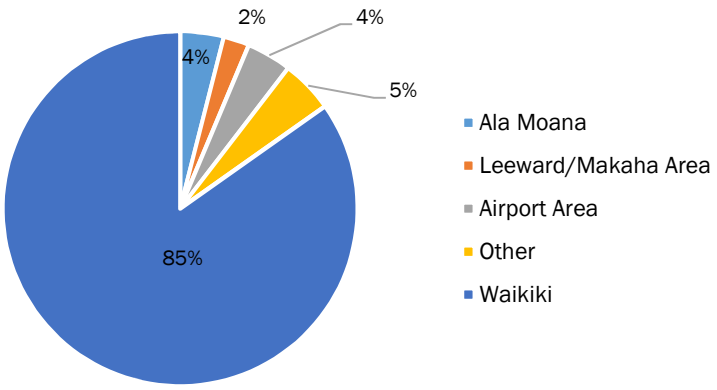
- Budget
- Economy
- Midprice
- Upscale
- Luxury
- Planned Rail Stations
- Planned Rail

0 1.5 3 Miles

STRATEGICECONOMICS

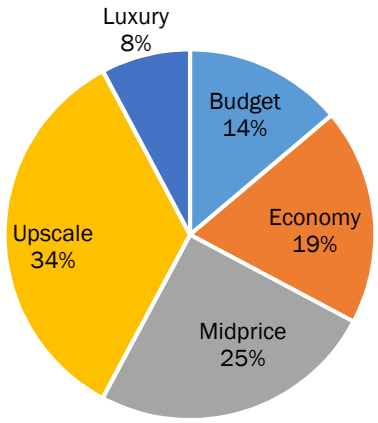
Sources: STR Global, 2018; City of Honolulu DPP, 2018; Strategic Economics, 2018.

FIGURE 52: HONOLULU'S HOTEL INVENTORY BY AREA



Notes: "Other" includes Kahala, Windward, North Shore, and Laie. Data includes condo-hotels.
Sources: HTA Visitor Plant Inventory, 2017; Strategic Economics, 2018.

FIGURE 53: HONOLULU HOTEL ROOMS BY MARKET SEGMENT



Source: STR Global, Oahu Census, Fall 2018; Strategic Economics, 2018.

Hotel Performance

This section describes Honolulu's hotel market performance, including a discussion of recent trends in visitor origins and growth in visitation. The findings describe both long term shifts in visitor origins and preferences, as well as the current short term increase in hotel performance in the current market cycle.

Recent hotel performance has been driven by a strong tourism industry, bolstered by relatively rapid growth in visitation from Oceania and eastern and southeastern Asia (compared to growth from historically significant origins such as the mainland United States and Japan). As shown previously in Figure 50, visitation to Honolulu has increased steadily since 2010. Between Honolulu's low point of

the economic downturn in 2009 and 2016, total visitor arrivals rose 35 percent to 5.4 million visitors, driven by strong growth from other Asian regions (China, Hong Kong, Taiwan, Korea, and Singapore) and Oceania (Australia and New Zealand) (Figure 54). Although the U.S. and Japan remain the largest segments of visitors to Honolulu—comprising 49 percent and 26 percent of all visitors, respectively—their share decreased slightly since 2009, while the proportion of visitors from other Asian regions and Oceania grew significantly. Visitor industry representatives interviewed for this study attributed increases in visitors from these areas to the introduction of more direct air routes, targeted marketing efforts, and implementation of visa-waiver programs in these countries.

Occupancy rates and room rates have risen to unusually high levels in the current market cycle (Figure 55). Since 2011, occupancy rates have exceeded 80 percent in Honolulu – well above a recent low of 72 percent in 2009. Room rates and revenue per available room (RevPAR) continue to climb as visitor arrivals increase, despite additions to Honolulu's hotel inventory.[32] As of the second quarter of 2018, Honolulu's average daily rate (ADR) was $233 with a RevPAR of $197 (Figure 56). In comparison, the national ADR was $129 with a RevPAR of $85 (Figure 9). However, compared to its neighboring islands, Honolulu has lower ADR and RevPAR rates and experienced minor increases in year-over-year growth. It is important to note that the hotel industry is cyclical and impacted by economic cycles, as evidenced by Figure 49; demand for hotel rooms is closely related to general economic conditions in the U.S. as well as abroad.

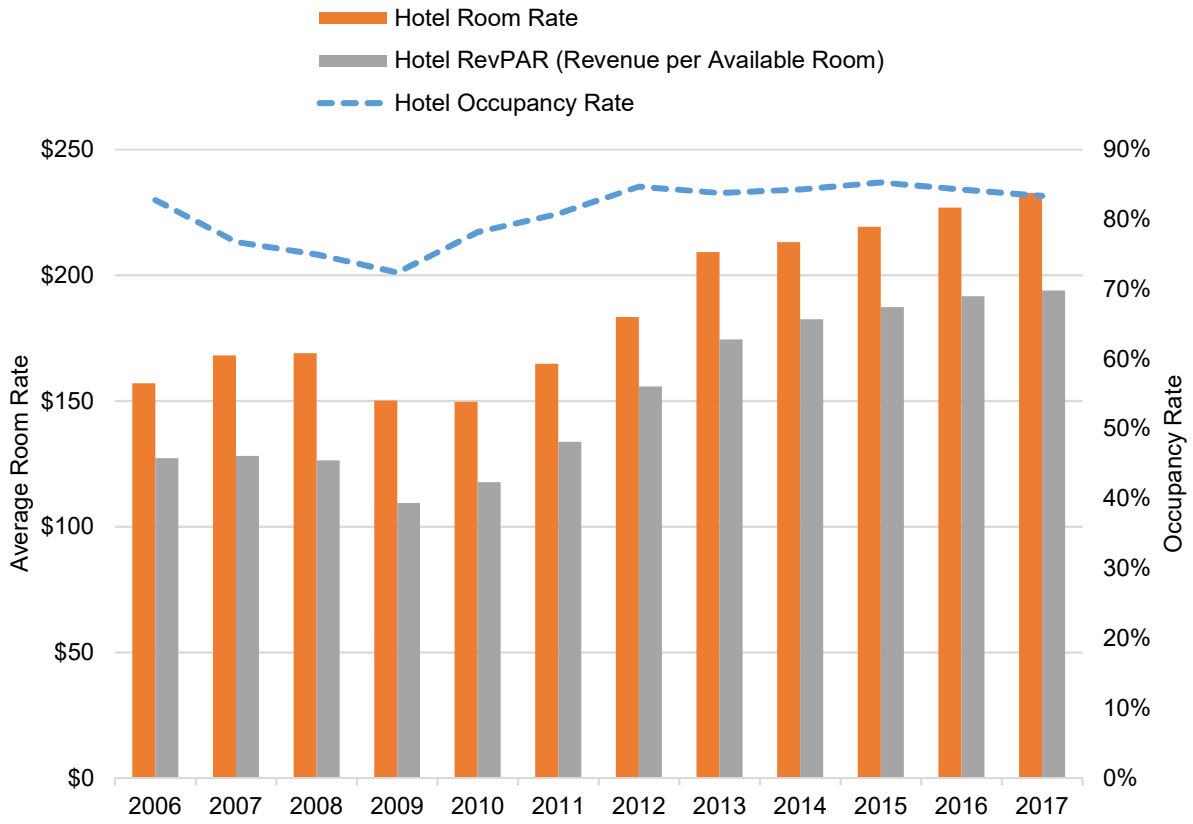
FIGURE 54: AIR ARRIVALS BY ORIGIN: OAHU, 2009 AND 2016

	2009		2016		
	#	% of Total	#	% of Total	% Change, 2009-2016
United States	2,216,002	55%	2,677,608	49%	+21%
West United States	1,255,017	31%	1,569,790	29%	+25%
East United States	960,985	24%	1,107,818	20%	+15%
Japan	1,132,226	28%	1,442,192	26%	+27%
Other Asia(a)	100,241	2%	432,197	8%	+331%
Oceania(b)	128,127	3%	377,479	7%	+195%
Canada	168,911	4%	185,680	3%	+10%
Europe	76,412	2%	103,118	2%	+35%
Latin America	13,561	0%	19,545	0%	+44%
Other Places	189,408	5%	209,411	4%	+11%
Total Oahu Visitors	**4,024,888**	**100%**	**5,447,229**	**100%**	**+35%**

(a) Other Asia = China, Hong Kong, Taiwan, Korea, Singapore
(b) Oceania = Australia, New Zealand
Source: Hawaii Tourism Authority, 2017.

[32] Revenue per Available Room (RevPAR) is the total guest room revenue divided by the total number of available rooms. RevPAR differs from ADR because RevPAR is affected by the amount of unoccupied available rooms, while ADR shows only the average rate of rooms actually sold (definitions based on STR data).

FIGURE 55: HOTEL MARKET PERFORMANCE, 2006-2017



Source: Hawaii Hospitality Advisors, DBEDT, 2018.

FIGURE 56: HOTEL MARKET PERFORMANCE, Q2 2017 AND Q2 2018

	Occupancy		Average Daily Rate			RevPAR		
Market	2017	2018	2017	2018	% Change	2017	2018	% Change
Oahu	83%	84%	$229	$233	+2%	$190	$197	+4%
Waikiki	84%	85%	$225	$229	+2%	$188	$195	+4%
Maui	78%	79%	$359	$398	+11%	$281	$313	+11%
Kauai	77%	79%	$263	$295	+12%	$203	$233	+15%
Big Island	76%	78%	$253	$272	+7%	$191	$210	+10%
State of Hawaii	80%	82%	$265	$280	+6%	$212	$229	+8%
United States	65%	66%	$126	$129	+3%	$82	$85	+4%

Sources: STR, July 2018; CBRE, Q2 2017 and Q2 2018.

Vacation Rental Trends and Impacts on Hotels

Visitors are increasingly likely to seek accommodations through home-sharing internet sites. "Home-sharing" services for short term vacation rental units include sites such as Airbnb, VRBO, and HomeAway. The share of visitors using "home-sharing" units grew significantly in Honolulu during the 2009 to 2016 period tracked by HTA's Annual Visitor Research report (see Figure 57). During the same period, the share of visitors using traditional accommodations (hotels, condo-hotels, hostels, or timeshare units) decreased by two percent. While there are no definitive estimates of the number of short term vacation rental units in Honolulu, the HTA estimated that about 9,441 units were individually advertised online in Honolulu in 2017, a nearly 39 percent increase since 2015.[33] Due to this rapid growth, the City and County of Honolulu is currently developing enforcement and registration measures to address the proliferation of short term vacation rentals in residential neighborhoods.[34]

Vacation rentals provide relatively affordable and flexible options that appeal to price-sensitive visitors. In a 2016 vacation rental market survey conducted for HTA by Jones Lang LaSalle (JLL), surveyed visitors stated that the most common reasons for using short term vacation rental units booked through home-sharing websites are the relatively lower cost and more flexible/larger accommodation suitable for families and groups.[35] Over 60 percent of visitors surveyed paid less per night for home and vacation rentals than the state's hotel average daily rate. According to the study, the median nightly rate of home and vacation rentals was estimated at $170, while hotels had an average daily rate of $244.

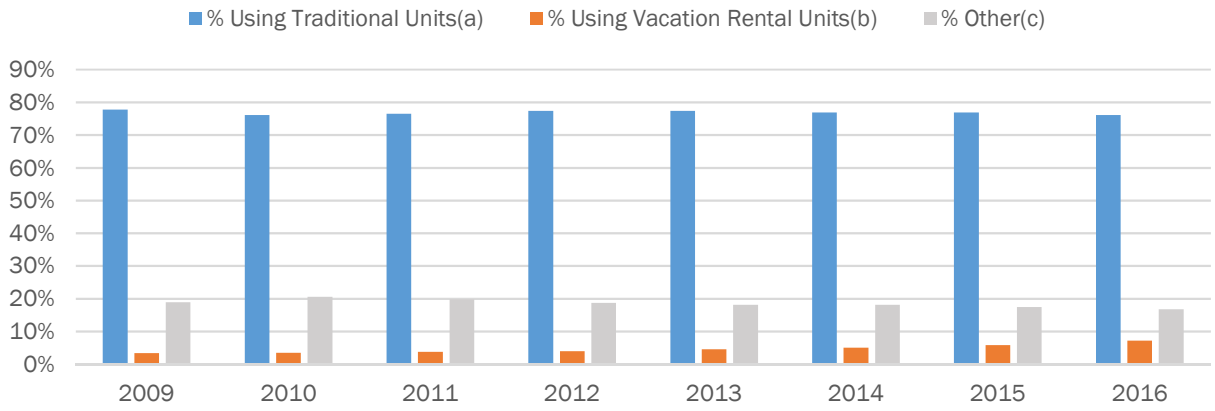
Home and vacation rentals appear to be helping to grow overall lodging demand in Honolulu, rather than solely shifting demand from hotels. The JLL study found that vacation rentals appear to represent induced demand (i.e., capture of additional demand due to additional and diversified supply). Only a small share of respondents indicated that they booked a vacation or home rental due to hotels being sold out. This suggests that a significant portion of vacation rental guests do not view hotels as substitutes, but are instead actively seeking different experiences. In particular, local, curated experiences have become an important part of their appeal. Cooking classes, yoga classes, and other personalized excursions are sometimes offered along with lodging.

[33] Hawaii Tourism Authority, 2017. *Visitor Plant Inventory Report*, p. 59. Based on a point-in-time data extraction from three booking sites (Airbnb, HomeAway, and Tripadvisor). The study acknowledged that the numbers likely overstate the number of individually advertised vacation rental units due to the lack of unique identifying information associated with each vacation rental unit that may be listed on multiple booking sites.

[34] Honolulu Civil Beat, "How Caldwell's Airbnb Bill Could Ease Honolulu's Housing Crunch," Aug. 20, 2018. https://www.civilbeat.org/2018/08/how-caldwells-airbnb-bill-could-help-honolulus-housing-crunch/

[35] JLL, "Hawai'i's Home and Vacation Rental Market: Impact and Outlook," Hawai'i Tourism Authority, December 29, 2016.

FIGURE 57: SHARE OF VISITORS ARRIVING BY AIR BY TYPE OF ACCOMMODATION, HONOLULU, 2009-2016



(a) Share of visitor arrivals by air reported using hotel, condo-hotels, hostel, or timeshare units.
(b) Share of visitor arrivals by air reported using vacation rental houses.
(c) Share of visitor arrivals by air reported staying with friends/relatives, remained aboard a cruise ship, or other.
Source: HTA Annual Visitor Research Reports, 2009-2016; Strategic Economics, 2018.

Hotel Development Trends

This section opens with an overview of recent hotel development and reinvestment activity in Honolulu, as well as the market conditions driving these projects. The section also includes specific findings about recent development trends in the Waikiki and Ala Moana areas.

Recently constructed, planned, and proposed hotel development and major reinvestment projects are shown in Figure 58. A summary of planned and proposed projects is described in Figure 59. A map of existing, planned, and proposed hotels in the Ala Moana and Waikiki areas are shown in Figure 60.

FIGURE 58: PLANNED AND PROPOSED HOTEL DEVELOPMENT BY TYPE, SOUTHERN OAHU (AS OF JANUARY 2019)

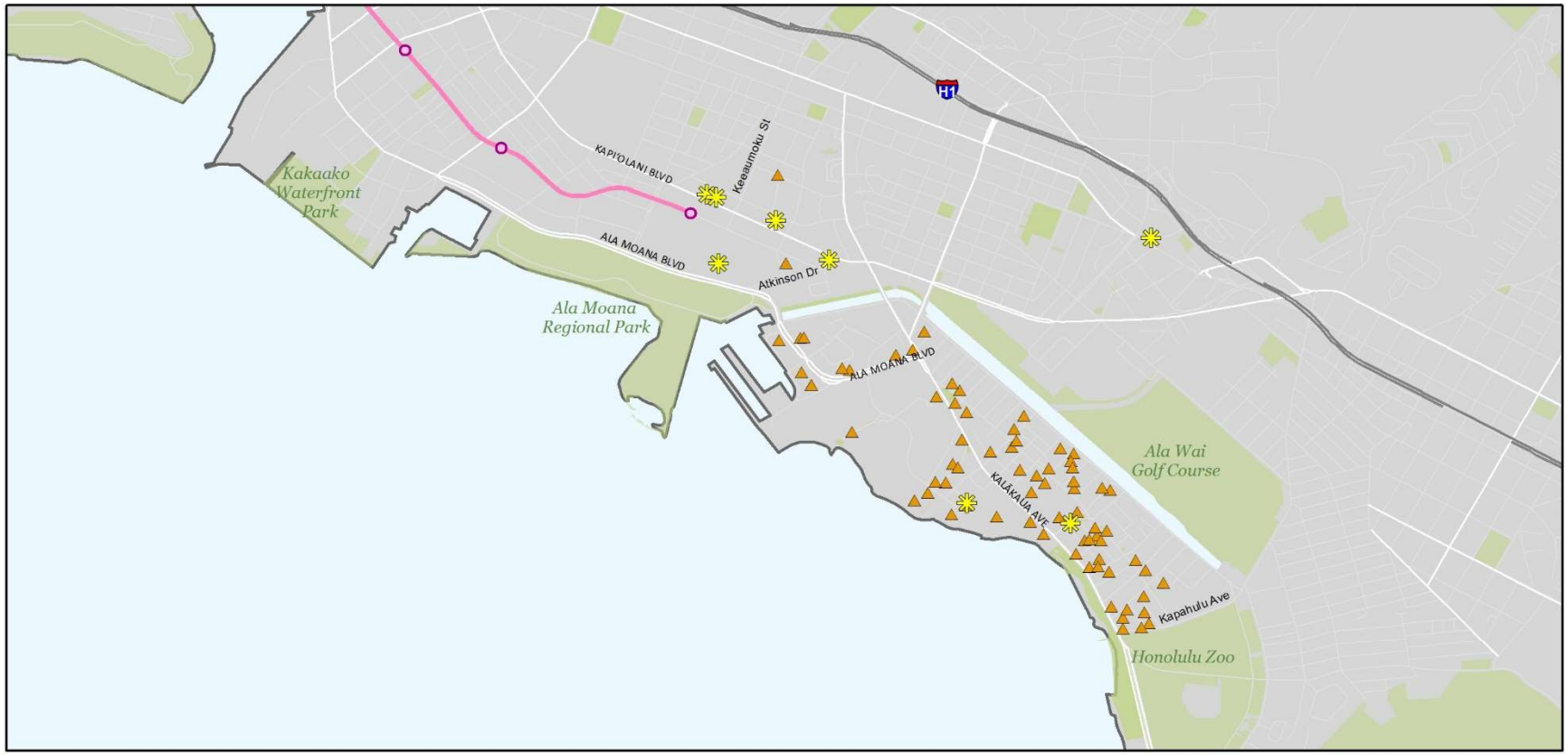
Sources: STR Global, 2018; City of Honolulu DPP, 2019; Strategic Economics, 2019.

FIGURE 59: PLANNED AND PROPOSED HOTEL PROJECTS, HONOLULU (AS OF JANUARY 2019)

Hotel Proposals	Area	Planned Type	Status	Hotel Units	Condo-Hotel Units	Condo Units	Affordable Units	Total Units in Project
New Development								
133 Kaiulani	Waikiki	Condo Hotel	Permit approved		246			246
Unnamed hotel (K.S.'s Pucks Alley/Varsity building site)	McCully-Moiliili	Hotel	Planned/Proposed	200				
Manaolana Place/Mandarin Oriental Hotel*	Ala Moana	Mixed-Use Condo and Hotel	Entitled via IPD-T	125		109	20	254
1500 Kapiolani*	Ala Moana	Condo Hotel	Entitled via IPD-T	6	444		78	528
Hawaii Ocean Plaza*	Ala Moana	Mixed-Use Condo and Hotel	Entitled via IPD-T	175		216	33	424
Sky Ala Moana*	Ala Moana	Condo Hotel	Entitled via IPD-T		322	80	77	479
Ala Moana Shopping Center (Over Macy's Parking Lot)*	Ala Moana Area	Unknown	Planned/Proposed					N/A
Unnamed hotel at Lipoa Place	Pearlridge	Hotel	Planned/Proposed	30				30
Unnamed hotel near Honolulu Airport	Airport	Hotel	Planned/Proposed	200				200
Wo Fat Building Renovation	Chinatown	Hotel	Planned/Proposed	24				
Unnamed hotel at Bethel/S. Hotel St.*	Chinatown	Hotel	Planned/Proposed	n/a				
Unnamed hotel (1 North King Street)*	Chinatown	Hotel	Planned/Proposed	n/a				
Hoakalei Resort at Ocean Pointe	Ewa Beach	Hotel	Planned/Proposed	950				950
Atlantis Resort Ko Olina	Ko Olina	Mixed-Use Condo and Hotel	Planned/Proposed	800		524		1,324
Unnamed beachfront hotel next to the Marriott Beach Club	Ko Olina	Mixed-Use Condo and Hotel	Planned/Proposed	800				800
Unnamed hotel (66-636 Kamehameha Highway)	Haleiwa	Hotel	Planned/Proposed	100				100
			Units, Subtotal	***3,410***	***1,012***	***929***	***208***	***5,335***
Redevelopment, Replacement, or Expansions								
Sheraton Princess Kaiulani	Waikiki	Condo Hotel	Proposed, but inactive		210	61		271
Halepuna Waikiki by Halekulani (formerly Waikiki Parc Hotel)	Waikiki		Planned/Proposed	288				288
Outrigger Reef Waikiki Beach Resort (2nd Tower)	Waikiki	Unknown	Environmental review (pre-permit approval)	60				60
Four Seasons Resort O'ahu (2nd Tower)	Ko Olina	Condo	Planned/Proposed			150		150
Laie Marriott Courtyard	Laie	Hotel	Under Construction	78				78
Turtle Bay Resort	Turtle Bay	Hotel	Planned/Proposed	625				625
Makaha Resort	Makaha	Hotel & Timeshare	Planned/Proposed	300				300
			Units, Subtotal	***1,351***	***210***	***211***	***0***	***1,772***
			Grand Total (Estimated)	**4,761**	**1,222**	**1,140**	**208**	**7,107**

*Located within a TOD area.
Sources: City of Honolulu Department of Planning and Permitting; Hawaii Tourism Authority Visitor Plant Inventory, 2017; Strategic Economics, 2018.

FIGURE 60: EXISTING AND PLANNED/PROPOSED HOTELS IN THE ALA MOANA AND WAIKIKI AREAS



Sources: STR Global, 2018; City of Honolulu DPP, 2019; Strategic Economics, 2019.

HOTEL DEVELOPMENT TRENDS OVERVIEW

Since the end of the Great Recession, nine hotel openings added over 2,200 new or substantially rehabilitated hotel rooms to Honolulu's hotel supply. Record growth in average daily rates and visitation has led to significant reinvestment and development activity. According to the hotel data service Smith Travel Research (STR), five new or substantially rehabilitated and rebranded hotels opened in Waikiki, three opened in West Oahu, and one in Laie. In western Oahu, two new resorts opened in Ko Olina, including Disney's Aulani Resort and the renovated Four Seasons. Two limited-service hotels (Embassy Suites and Hampton Inn) also opened near the Kalaeloa Airport to serve business travelers and value-seeking tourists.

Upscale and luxury hotels make up the majority of new hotel rooms. In the period between 2010 and 2017, more than 60 percent of all new hotel rooms were in the upscale and luxury segments. Prior to this recent construction, Honolulu only had three luxury hotels, as defined by local tourism industry representatives interviewed for this study: The Royal Hawaiian (opened 1959), the Kahala Resort and Hotel (opened 1964), and Halekulani (opened 1984). Newly renovated hotels also favor the upscale and luxury market.

Approximately 23 new and renovated hotel and condo-hotel projects are planned or proposed in Honolulu, mostly in Waikiki, Ala Moana, and western Oahu (Figure 59). According to information provided by the Honolulu's Department of Planning and Permitting, there are 16 new hotel projects planned or proposed in Honolulu, which could add over 3,200 new hotel rooms and 1,012 condo-hotel units. Significant redevelopment activity and expansion activity are also occurring, primarily in Waikiki. Approximately 1,350 hotel rooms—which includes new rooms and rehabilitation of existing hotel rooms—and 210 condo-hotel units are planned as part of these redevelopment, replacement, or expansion projects. While developers continue to pursue new hotel projects in response to high visitation and demand, developers also report that projects are increasingly difficult to deliver due to rising material costs, financing challenges, and labor shortages.

Compared to the existing inventory of hotel rooms and past development trends, condo-hotels constitute a high share of planned and proposed hotel rooms. The 1,012 condo-hotel units in planned and proposed development projects in Honolulu constitute over 30 percent of total planned and proposed hotel rooms. In contrast, condo-hotel units are only 11 percent of existing total inventory in Honolulu. The callout box on page 78 describes why developers are currently pursuing this product.

Smaller, boutique hotels are also being proposed in Chinatown, an area that has attracted recent market interest. Honolulu's Chinatown is known for its unique historic buildings, vast dining and nightlife offerings, and vibrant and walkable setting. The new owners of the iconic Wo Fat building have plans to renovate the building into a new restaurant and boutique hotel. There are also a couple of other hotels being proposed in the area, although no applications have been submitted yet to the City.

WAIKIKI

Waikiki remains the primary lodging destination in Honolulu, with additions to the hotel inventory largely consisting of expansions of existing hotel properties. Redevelopment of existing hotel properties is occurring throughout Waikiki, with the majority of projects consisting of upscale and luxury hotels, condo-hotels, and timeshares. Examples include the planned redevelopments of the

Sheraton Princess Kaiulani and Waikiki Parc Hotel, as well as a second tower at Outrigger Reef Waikiki Beach Resort.

Several older Waikiki hotels were recently rebranded and modernized. Due to Waikiki's continued strong hotel performance, hotel developers are investing in value-add upgrades to older properties. According to Cushman and Wakefield's 2017 U.S. Hospitality and Lodging Overview, social media has played a role in driving improvements: "With every guest being a potential reviewer with images on social media, the pressure to maintain and improve hotels is as great as ever." Hotels are investing to meet the expectations of consumers through renovation projects, including lobby redesigns, technology improvements (e.g., self-registration kiosks), reconfiguration of common spaces and pool areas, and expanded food and beverage options. Recent rebranded hotels include the Prince Waikiki (formerly Hawaii Prince Hotel), the Laylow Autograph (formerly Aqua Waikiki Wave), Maile Sky Court (formerly the Nailers Sky Court), the Halepuna Waikiki (formerly Waikiki Parc Hotel), and Alohilani Resort (formerly Pacific Beach Hotel).

ALA MOANA

The Ala Moana area is experiencing unprecedented interest in hotel development. The Pagoda Hotel and Ala Moana Condo-hotel were historically the two main lodging options in Ala Moana, but these properties were built in the late 1960s and early 1970s. According to hotel developers and tourism industry experts interviewed for this study, there is growing demand for visitor accommodations in Ala Moana. As of October 2018, three projects were recently entitled, one is awaiting final approval, and one is proposed. The planned and proposed hotels are located within a quarter to half mile of the future Ala Moana rail station.

According to developers interviewed for this study, Ala Moana has become a highly desirable neighborhood for hotel development for the following reasons:

- **Strategic location between Kakaako and Waikiki.** Over the last several years, Kakaako has undergone dramatic transformation with the redevelopment of Ward Village, adding several thousand new residential units and walkable retail, entertainment, and dining amenities. On the other side of Ala Wai Canal is Waikiki, Honolulu's premier tourist destination. This has contributed to the appeal of Ala Moana as a strategic location for meeting demand of the both residential and hotel markets. Over time, these neighborhoods may develop into more seamless and integrated neighborhoods.
- **Close proximity to shopping, beach parks, Hawaii Convention Center, and entertainment and dining options.** According to one hotel developer, Ala Moana's world class retail offerings attract hotel developers by providing a major amenity for guests. Ala Moana's close proximity to beach parks, the Hawaii Convention Center, and a growing number of entertainment and dining options appeal to a growing segment of travelers seeking different urban experiences beyond what is offered in the Waikiki resort area. Many Ala Moana locations also offer ocean views.
- **Availability of development opportunity sites and relatively high allowable densities.** Ala Moana has several development opportunity sites suitable for major high-rise development. Unlike Waikiki, which is mostly built out, Ala Moana's Kapiolani corridor has several large redevelopment opportunity sites. The Ala Moana neighborhood is also in a transit-oriented development (TOD) area that permits greater densities—up to 400 feet and 10.0 floor area ratio (FAR)—through Interim Planned Development-Transit (IPD-T) permits. This is significantly more than what is allowed in Waikiki, where current zoning regulations allow heights between

25 feet along the coastline to 300 feet in the Waikiki Special District under current zoning regulations, along with correspondingly lower allowed FAR limits.

The planned hotel projects in Ala Moana include condo-hotel units and mixed-use projects with "upscale" and "luxury" hotel rooms and condominium residences.[36] Four hotel development proposals in Ala Moana were recently entitled by the City, and another is in the approvals process (see Figure 59). The Fifteen Hundred Kapiolani and Sky Ala Moana projects consist of condo-hotel units. Condo-hotel units are individually owned residences that allow owners to take advantage of hotel services and amenities while using the unit. When the owner is not using the unit, it is placed within a rental pool managed as a single branded hotel property. In contrast, the planned Hawaii Ocean Plaza and Moanaolana Place/Mandarin Oriental are luxury mixed-use towers that include hotel rooms and residential units on separate floors, with the hotel and residences operating largely independently of each other.

Two hundred affordable housing units are included as part of Ala Moana's upcoming mixed-use and condo-hotel projects. As part of the Interim Planned Development-Transit (IPD-T) permit for projects located in the Ala Moana TOD area, developers can request higher heights and densities if they provide community benefits such as affordable housing. As a condition of approval, the projects in Ala Moana were required to provide on-site affordable housing, as shown in Figure 59.

[36] "Upscale" and "luxury" designations are based on those used by hotel data provider STR.

GAUGING AND ADDRESSING THE IMPACT OF CONDO-HOTELS

At the request of DPP, Strategic Economics examined the drivers of demand for condo-hotels and the implications of their development on the future of Ala Moana. The following findings supplement those already explored in the recent DPP memorandum, "Ala Moana as a Resort Destination."

Condo-hotels are popular among developers for three primary reasons:

1. **Buyers of the units provide an alternative source of financing for the development project:** Buyers of condo-hotel units essentially provide low-cost up-front capital for the developer, which allows the developer to reduce his or her construction loan. Pre-sales of condo units also reduce the overall risk of the project, and may allow the developer to access construction loans at a lower interest rate than would otherwise be possible.

2. **Condo-hotel units capture demand for second homes:** Condo-hotel units provide flexibility that taps into multiple categories of demand for both hotel room rentals and buyers of second homes who are seeking an income stream and easy management of the unit while they are away.

3. **Condo-hotel units capture demand for vacation rental units:** Unlike traditional hotel rooms, condo-hotel units are typically larger and may include multiple bedrooms and full kitchens. As a result, these units meet demand for upscale vacation rental units. From the owner perspective, it is relatively convenient to allow a major hotel operator to handle marketing and management of the unit.

It is not possible to definitively conclude whether condo-hotel projects are being proposed as a means of skirting inclusionary housing requirements or affordable housing impact fees in the Ala Moana area. However, this motivation does not appear to be a primary driver of this product's development, particularly since several proposed projects do include on-site affordable housing units and/or traditional condominium units as well (Figure 60).

Development of condo-hotel units on development opportunity sites in Ala Moana will reduce the availability of sites for housing development. A true condo-hotel is essentially both a second home and hotel product, but not a primary housing unit. While development interest will vary based on housing market cycles, it is likely that Ala Moana will continue to experience demand for visitor-serving and second home residential uses in the future as Waikiki becomes increasingly built out.

DPP may need to determine a policy response to the growth of condo-hotels in Ala Moana. Potential responses include 1) legally defining condo-hotels such that they may not be used as a year-round residence, therefore ensuring that a "*hotel residence*" allowing year-round residential occupancy would be subject to affordable housing development requirements; 2) applying affordable housing development requirements to all condo-hotels; 3) revisiting the Ala Moana Neighborhood TOD Plan guidance on the allowable locations and types of second home and hotel products in the area.

Hotel Demand Projections

The first part of this section describes the expected long term future demand for additional hotel rooms in Honolulu. Having established this range of "regional" demand, the second part of this section allocates this demand to TOD corridor station area segments based on known projects, historic trends in hotel development, and known plans, policies, and development constraints/opportunities.

HONOLULU HOTEL DEMAND PROJECTIONS

Strategic Economics projected a range of long term demand for additional hotel rooms in Honolulu based on two different methodologies. The "low" scenario was based on long term historical trends in hotel room inventory growth in Honolulu. The "high" scenario is based on projections of future visitor growth prepared by the State of Hawaii. The different base data sources--i.e., hotel room inventory growth versus visitor counts—required different methodological approaches to estimating future room demand.

The "low" demand scenario assumes that hotel room inventory will continue to grow at its long term cumulative average annual growth rate of approximately 0.64 percent between 2000 and 2017. This scenario indicates demand for 2,600 additional hotel rooms by 2030, and 4,700 additional hotel rooms by 2040, as shown in Figure 61.

The "high" demand scenario assumes that hotel room inventory will maintain the same long term average ratio of visitors to rooms as occurred during the ten-year period from 2008 through 2017. This ratio – 171 visitor air arrivals per room – is consistent with longer term trends as well. The ratio was applied to visitor air arrival projections produced by the State of Hawaii's Department of Business, Economic Development, and Tourism (DBEDT), which suggest a relatively high growth rate compared to historic hotel inventory growth. The "high" scenario indicates demand for 6,100 additional hotel rooms by 2030, and 8,300 additional hotel rooms by 2040, as shown in Figure 62.

FIGURE 61: "LOW" SCENARIO: BASED ON CUMULATIVE AVERAGE GROWTH RATE IN ROOMS, 2000-2017

Cumulative Avg Annual Growth in Rooms, 2000-2017:	0.64%
STR Estimate of Hotel Room Inventory as of 2017:	29,710
Gross Increase in Demand for Hotel Rooms:	
Total Increase by 2030:	2,600
Total Increase by 2040:	4,700

Source: STR, 2018; HTA, 2018; Strategic Economics, 2018.

FIGURE 62: "HIGH" SCENARIO: BASED ON DBEDT AIR ARRIVAL PROJECTIONS AND 10-YEAR AVERAGE RATIO OF ARRIVALS TO ROOMS

10-Year Average Ratio of Visitor Air Arrivals to Hotel Rooms:	171
DBEDT Projected Increase in Visitor Air Arrivals:	
Total Increase by 2030:	451,225
Total Increase by 2040:	817,333
Gross Increase in Demand for Hotel Rooms	
Total Increase by 2030:	6,100
Total Increase by 2040:	8,300

Source: STR, 2018; State of Hawaii DBEDT, 2018; Strategic Economics, 2018.

FIGURE 63: SUMMARY OF GROSS INCREASE IN HOTEL ROOM DEMAND, HIGH AND LOW SCENARIOS

	By 2030	By 2040
Low Scenario	2,600	4,700
High Scenario	6,100	8,300

Source: City and County of Honolulu DPP, 2018; Strategic Economics, 2018.

ALLOCATION OF DEMAND TO THE RAIL CORRIDOR STATION AREAS

The following conclusions from the preceding analyses and findings were used to inform the allocation of demand to the rail corridor and its station areas:

- The current extent of the rail project will not reach Honolulu's greatest existing concentrations of hotels and resorts, given that it will stop short of Waikiki (with 85 percent of Honolulu's inventory) and does not reach waterfront resort areas such as Ko Olina or Hoakalei in the Ewa Beach area. It is expected that a substantial share of future development activity is likely to occur near existing clusters of hotels. Notably, the locations of future hotel development depend in part on where zoning and land use policy allow hotels to locate. Current policy encourages concentration of full-service hotels in locations such as Waikiki and resort areas such as Ko Olina and Hoakalei.

- Hotel location decisions are overwhelmingly influenced by the ability to attract tourists. As a result, it is unlikely that a hotel will be located somewhere exclusively on the basis of serving, for example, business travelers.

- Ala Moana is well-positioned to continue attracting future hotel development, unless changes in land use policy curtail these opportunities. Ala Moana is the beneficiary of a location immediately adjacent to Waikiki, relatively generous allowable heights and densities compared to Waikiki, existing shopping and park amenities that are appealing to visitors, and the existence of development opportunity sites. The addition of rail access – which will be lacking in Waikiki – is likely to create even more desirability for tourists to choose a hotel in Ala Moana.

- Hotel development in station areas outside the Ala Moana area is likely to be limited and more difficult to predict, although the Chinatown, Airport/Aiea, and Kapolei areas are likely to attract some hotel development. Kapolei has successfully attracted recent and proposed hotel development on the basis of serving visitors to the University of Hawaii – West Oahu campus, business travelers, and value-seeking tourists visiting family and nearby waterfront resorts. The airport area and Aiea could potentially attract a hotel based on airport proximity and convenience for accessing military facilities. Chinatown has recently begun to attract development interest for smaller boutique hotels.

- The allocation process also considered recent trends in growth of the hotel inventory, including both traditional hotel rooms and condo-hotel units that function under a major hotel brand. Figure 64 shows the locational distribution of total net new hotel rooms constructed in the past ten years and in planned and proposed projects, in geographies selected based on their relevance to the future rail corridor.

FIGURE 64: LOCATIONS OF RECENTLY BUILT AND PLANNED/PROPOSED HOTEL ROOMS AS OF 2018

	Hotel Rooms	Condo-Hotel Units	Total Units
Waikiki	9.3%	49.9%	17.4%
Ala Moana Area	4.9%	50.1%	13.9%
Chinatown*	0.4%	0.0%	0.3%
Airport	3.2%	0.0%	2.6%
Pearlridge	0.5%	0.0%	0.4%
East Kapolei Area**	5.7%	0.0%	4.6%
Other***	75.9%	0.0%	60.9%
Total	100.0%	100.0%	100.0%

*Chinatown data undercounts development activity since room counts are not yet known for two potential hotel projects.
**Data includes hotels located within 1.5 miles of the future East Kapolei station, but excludes hotels in nearby resort areas.
***Includes all hotels located outside Waikiki and away from the future rail corridor. These hotels are largely located in waterfront resort areas.
Source: STR, 2018; City and County of Honolulu DPP, 2018 & 2019; Strategic Economics, 2019.

Based on these considerations, future demand was allocated as shown in Figure 65. The allocation assumes that the rail corridor captures 35 percent of future hotel demand, which is an increase over its 22 percent capture rate of recent and proposed development.

FIGURE 65: ALLOCATION OF FUTURE HOTEL DEMAND TO SEGMENTS OF RAIL CORRIDOR

	By 2030			By 2040		
	% Distribution	Rooms, Low	Rooms, High	% Distribution	Rooms, Low	Rooms, High
Off Rail Corridor	65%	1,690	3,965	65%	3,055	5,395
On Rail Corridor	35%	910	2,135	35%	1,645	2,905
Segment: Ala Moana to Chinatown	*22%*	*572*	1,342	*22%*	*1,034*	1,826
Segment: Lagoon Drive to Pearlridge	*5.5%*	*143*	336	*5.5%*	*259*	457
Segment: UH West Oahu and East Kapolei	*5.5%*	*143*	336	*5.5%*	*259*	457
Other Corridor Areas	*2%*	*52*	122	*2%*	*94*	166

Source: Strategic Economics, 2019.